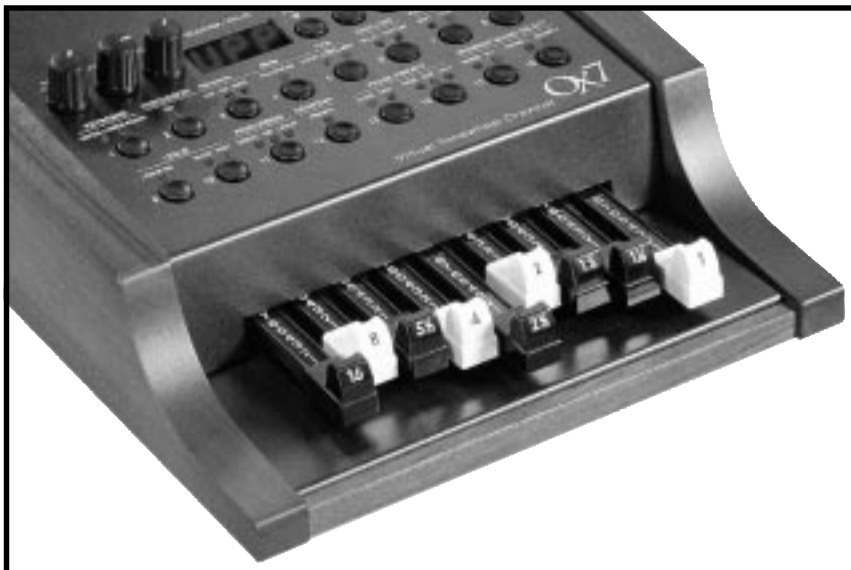

User's Manual

OX7

Virtual ToneWheel Organ

3nd Edition

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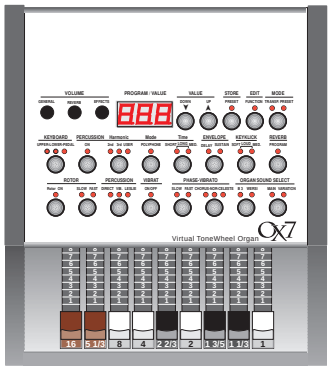
CHARACTERISTICS OF THE OX7



Congratulations on your purchase of the new OX7 MIDI drawbar module! You can drive your OX7 with any MIDI instrument and thereby have access to the legendary drawbar organ sounds of the 60‘s, 70‘s and 80‘s. We have invested much time and energy in simulating as exactly as possible the trend-setting sounds of the famous electromagnetic HAMMOND B3 and the electronic WERSI organs. Not only did we analyse in finest detail the sounds of these organs, but have sought the advice of professional musicians in the development of the OX7.

The drawbar section of the OX7 affords complete access to the nine classical organ registers in feet (16‘, 8‘, 5 1/3‘, 4‘, 2 2/3‘, 2‘, 1 1/3‘, 1‘.) The number of sound variations is endless.

Registers are divided into three multitimbral manuals (UPPER, LOWER, PEDAL), and can be independantly programmed and saved. Using a MIDI capable pedal bank and a split capable MIDI keyboard, or even two separate keyboards, you can play all three manuals simultaneously.

Your OX7 is equipped with all the standard effects available in the original instruments as well as numerous reverb programs that are easily accessed.

The programmable KEYCLICK function simulates the attack noise of a typical tone wheel organ.

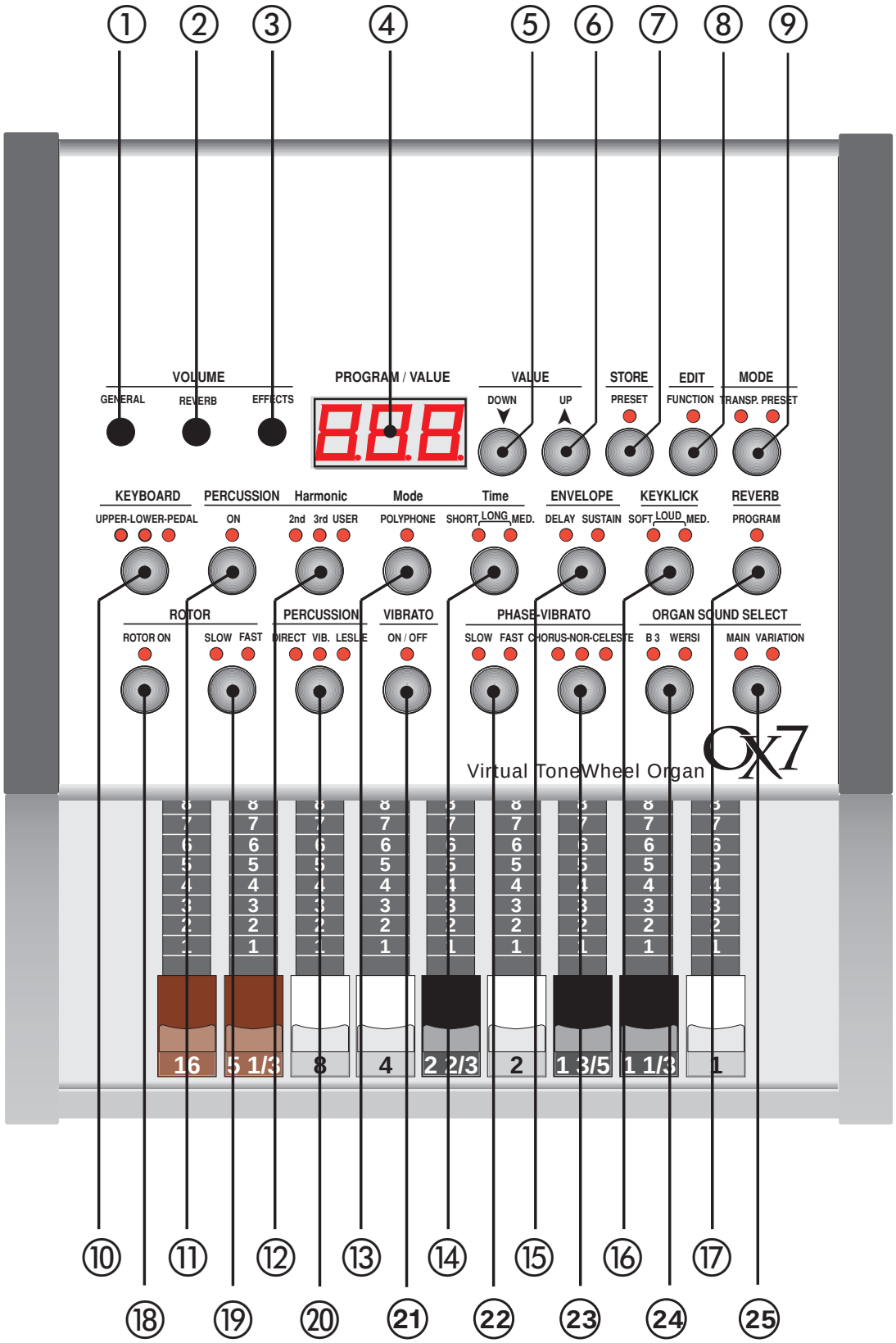
The two-level Rotor rotor simulates exactly the complexities of a Rotor cabinet. The acceleration and decelleration of both sets of rotating speakers have been taken into consideration in the simulation.

Other typical organ effect features such as percussion, phase-vibrato and distortion serve to enhance sound variation possibilities for even the most ambitious organist.

All the registers and parameters of the OX7 can be saved in 99 presets which can be accessed easily at any time.

You can use the DUMP function to transfer and back up all your saved presets and data using MIDI.

FRONT PANEL OX 7



FRONT PANEL DESCRIPTIONS OX 7

① GENERAL: Volume setting for the entire instrument..

② REVERB: controls the reverb intensity of the presently selected reverb program.

③ EFFECTS: controls the intensity of the percussion effect.

④ DISPLAY: The large 7-segment display shows the present preset inforation as well as appropriate parameter values during editing.

⑤ DOWN: to reduce the presently selected value or presently selected preset by one.

⑥ UP: to increase the presently selected value or presently selected preset by one.

⑦ STORE: After editing, the newly changed values can be saved using the STORE button.

⑧ EDIT: switches to edit mode, allowing access to various programmable parameters.

⑨ MODE: toggles between preset mode and transposer access.

⑩ KEYBOARD: allows the selection of the appropriate manual to which to apply drawbar settings.

⑪ PERCUSSION: turns the percussion effect on or off.

⑫ HARMONIC: toggles between 3 various percussion effects.

⑬ MODE: Percussion can be either monophonic or polyphonic. The MODE button toggles between them.

⑭ TIME: The decay time of the percussion effect can be set to three different lengths.

⑮ ENVELOPE: This button toggles between various attack and decay combinations of the envelope curve.

⑯ KEYCLICK: You can add a click to every depressed key. Use this button to set the click‘s intensity.

⑰ REVERB: accesses the various reverb programs.

⑱ ROTOR ON: toggles Rotor on and off.

⑲ SLOW / FAST: Two different Rotor rotation speeds are available when the ROTOR ON button is activated.

⑳ DIRECT / VIBRATO / ROTOR: You determine whether the percussion effect should include vibrato, Rotor or simple direct signal.

㉑ DRAWBAR: Toggles vibrato on and off for the drawbars.

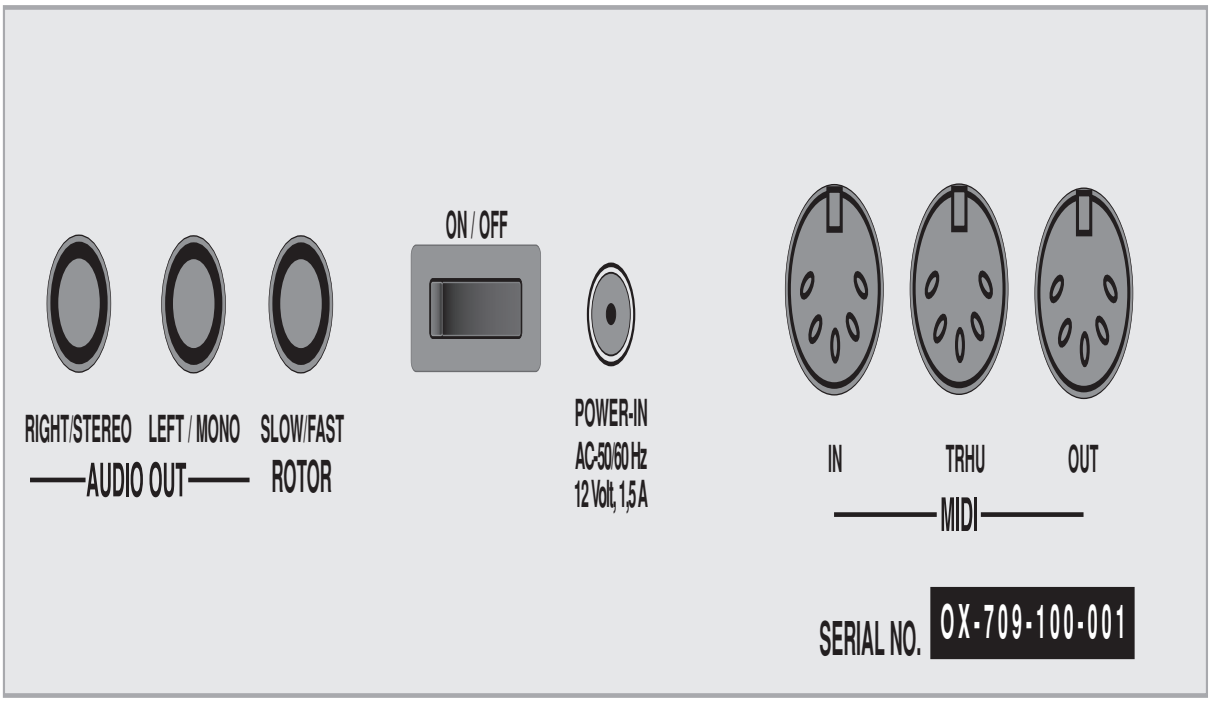
㉒ SLOW / FAST: toggles between the two available vibrato speeds.

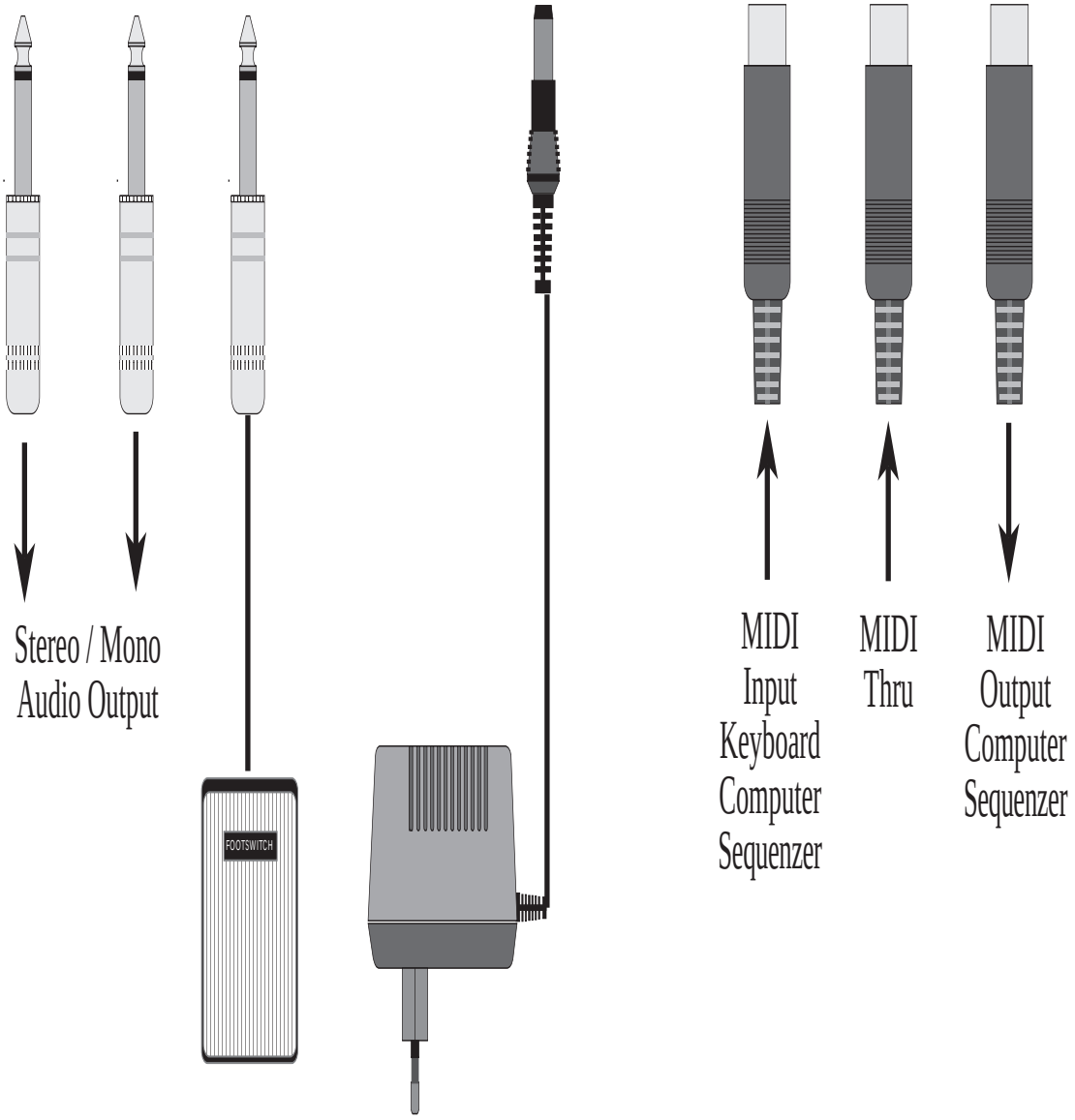
㉓ CHORUS / NORMAL / CELESTE: toggles between the three available vibrato variations.

㉔ B 3 / WERSI: toggles between two separate organ systems.

㉕ MAIN / VARIATION: toggles between the two available timbre variations within each organ system.

THE OX 7'S REAR PANEL





GENERAL PRECAUTIONS

NOTE:

- Keep your instrument out of high humidity.

- Use ONLY the included powersupply.

- Use only the correct house current.

- Avoid physical trauma and impact.

- Disconnect the power immediatly if prolems arise.

- Read the user‘s manual before using the instrument.

- Avoid high tempuratures and direct sunlight.

Check to make sure your house voltage matches the rating printed on the powersupply. Avoid high temperatures such as near a power amplifier.

Avoid using your instrument in conditions of high humidity. If you bring it in from the cold outdoors, wait until it has reached room temperature before powering it up. Otherwise damage can be caused by condensation. Do not spill liquids such as coffee on your instrument.

OPERATING PRECAUTIONS

If repair becomes necessary, allow repair only by qualified service technicians. When you unplug your instrument from the wall, always pull it out by the plug and NOT by the cable.

Don‘t plug your instrument into a socket that is already being used by something that could cause problems; eg. electric motors, lighting dimmers, etc. Do not use the instrument near devices that are known to cause problems; eg. Televisions, cellular phones, florescent lighting. If liquid or any object should get into the instrument, pull the power plug immediately and let it be checked by a qualified service technnician before you try to use it again. This instrument carries the CE Logo and meets the standards of the European Union.

SETTING UP AND POWERING UP

Before you can use your OX7 it will be necessary to connect it to your MIDI equipment. Make sure you have the cables connected properly in order to avoid error functions:

CONNECTING THE OX7 TO A KEYBOARD

1) Connect both AUDIO OUT jacks on the OX7 with your amplifier using two (MONO) quarter inch cables. If you not be sending a stereo signal, use just the LEFT/MONO output jack on the OX7. For an optimal Rotor sound you should connect your OX7 in stereo.

2) Connect the MIDI out jack on your keyboard with the MAIN-IN jack on the OX7. Use a standard 5-connector MIDI cable. .

3) If you will be using a MIDI capable bass pedal bank, connect its MIDI out jack with the PEDAL-IN jack of the OX7. Plug in the powersupply for the pedal bank.

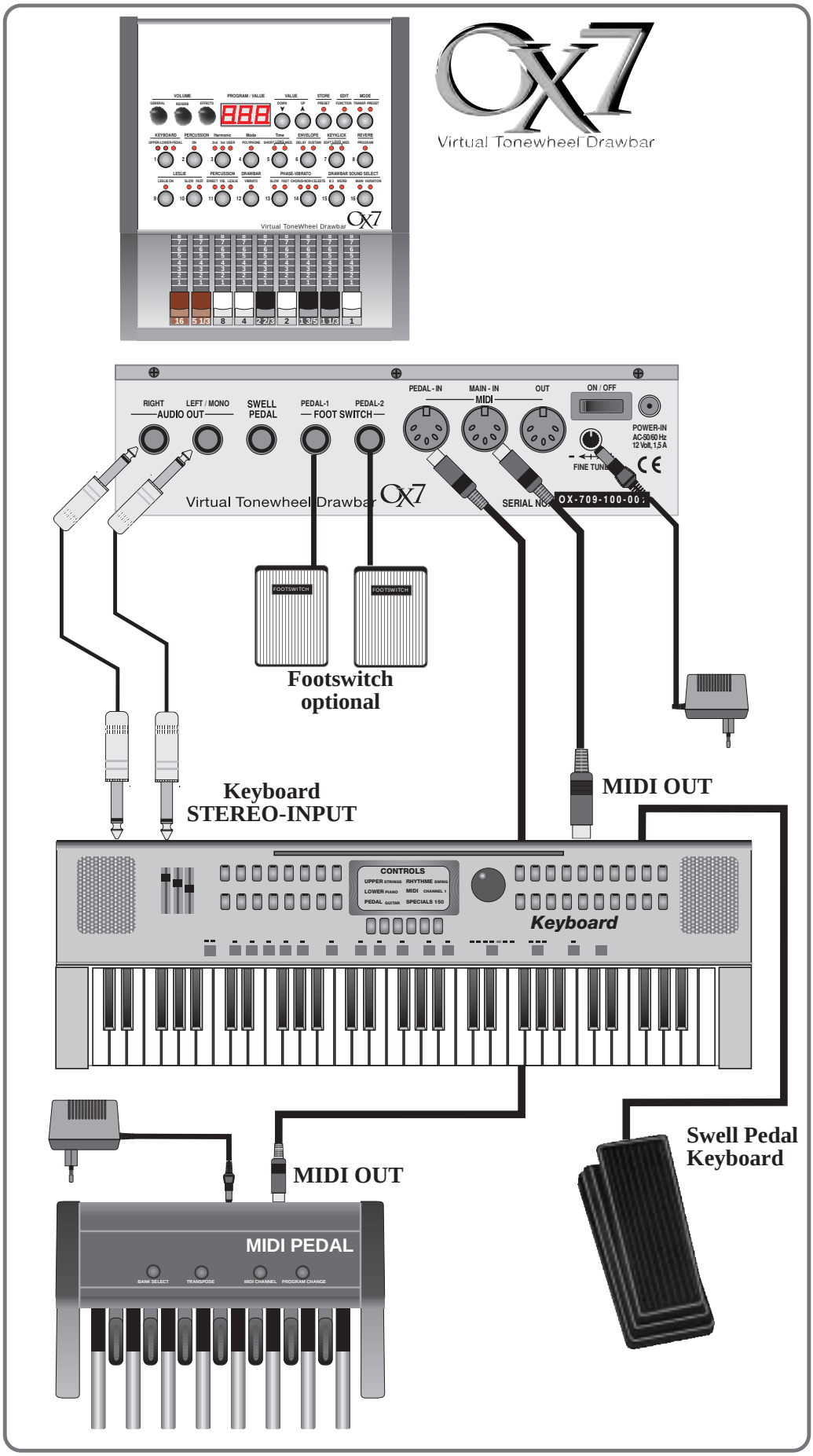
4) Connect the quarter inch cable of a volume pedal to the SWELL PEDAL jack, if you will be using one. If you have one, or even better, two foot switch pedals, connect them to the PEDAL-1 and PEDAL-2 quarter inch input jacks. If you only have one pedal, you need to decidewhether you would rather use it to control Rotor rotor speed (PEDAL-1) or sustain effect (PEDAL-2).

Note: If your MIDI master keyboard allows for connecting volume pedals or switch pedals to it, you can connect your pedals to it instead if you desire.

5) Connect the included power supply to the POWER-IN jack of the OX7 and plug it into your power source. Turn on the power switch on your OX7 as well as your MIDI and amplifier equipment. Play some keys on your MIDI keyboard to make sure the connetions are functional.

6) If you want to use the Upper and Lower manuals of the OX7 at the same time, you will need to set your master keyboard to allow for an appropriate split. If you‘re not sure how to do this, see the user‘s manual of your master keyboard or your dealer. Normally your OX7 uses MIDI channel 1 for the upper manual, MIDI channel 2 for the lower manual, and MIDI channel 3 for the pedal bank. It could be necessary for you to change these channel assignments in your OX7. See „EDIT Key/Global Parameters.“

NOTICE! The OX7 has a special function to allow adapting to a keyboard. Using a program change command the OX7 can be turned on or off per channel. See the directions in the section „Receiving Program Change Commands“ on page 38.


OX7
Virtual Tonewheel Drawbar
RIGHT
LEFT / MONO
AUDIO OUT
SWELL PEDAL
PEDAL-1
PEDAL-2
FOOT SWITCH
PEDAL - IN
MAIN - IN
MIDI
OUT
ON / OFF
POWER-IN
AC-50/60 Hz
12 Volt, 1,5 A
FINE TUNE
SERIAL NO.
OX-709-100-00
Footswitch
optional
Keyboard
STEREO-INPUT
MIDI OUT
CONTROLS
Keyboard
MIDI OUT
MIDI PEDAL
Swell Pedal
Keyboard

CONNECTING THE OX7 TO AN 88-KEY MIDI MASTER KEYBOARD

1) Connect both AUDIO OUT jacks on the OX7 with your amplifier using two (MONO) quarter inch cables. If you not be sending a stereo signal, use just the LEFT/MONO output jack on the OX7. For an optimal Rotor sound you should connect your OX7 in stereo.

2) Connect the MIDI out jack on your keyboard with the MAIN IN jack on the OX7. Use a standard 5-connector MIDI cable.

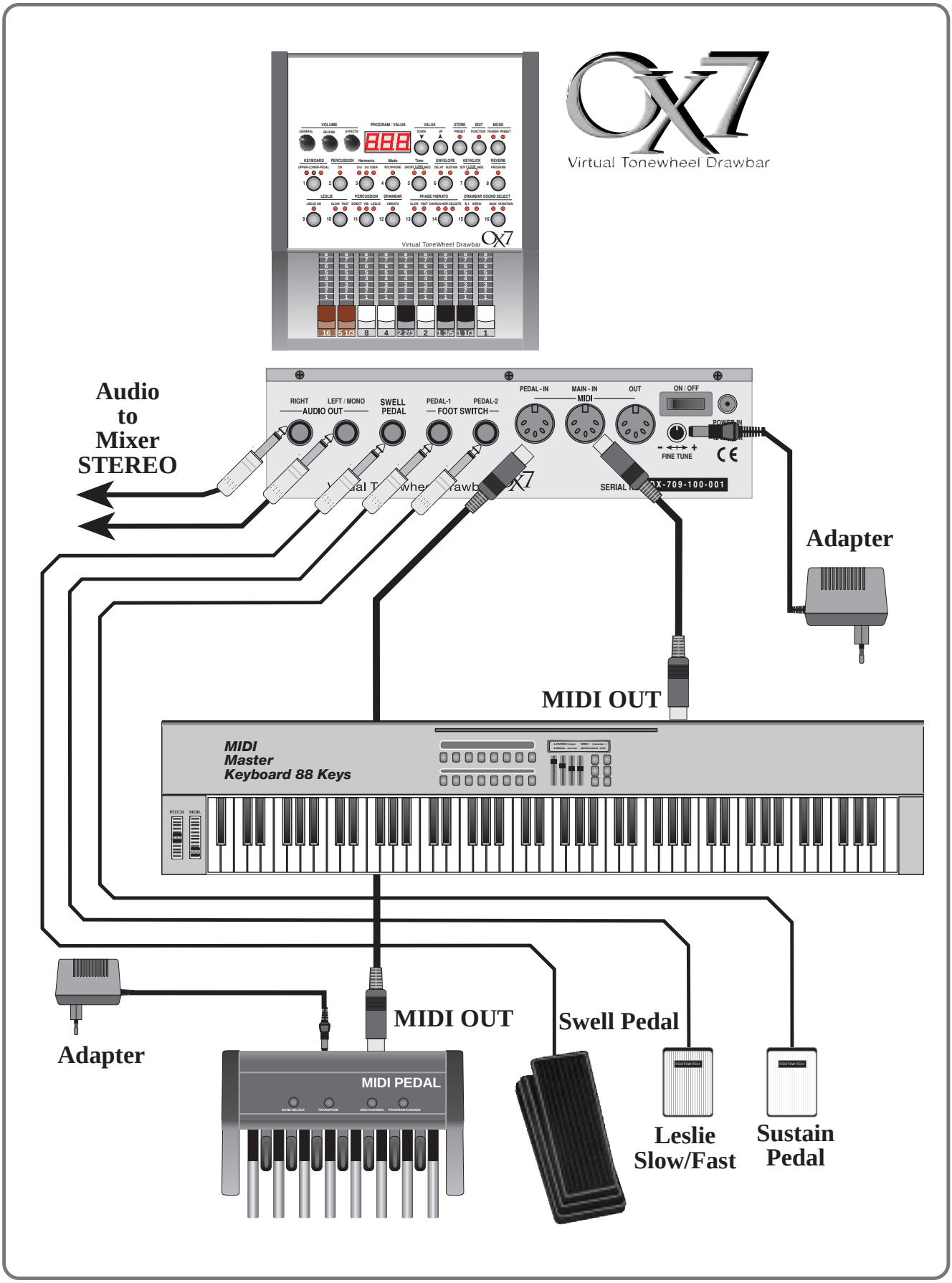
3) If you will be using a MIDI capable bass pedal bank, connect its MIDI out jack with the PEDAL-IN jack of the OX7. Plug in the powersupply for the pedal bank.

4) Connect the quarter inch cable of a volume pedal to the SWELL PEDAL jack, if you will be using one. If you have one, or even better, two foot switch pedals, connect them to the PEDAL-1 and PEDAL-2 quarter inch input jacks. If you only have one pedal, you need to decidewhether you would rather use it to control Rotor rotor speed (PEDAL-1) or sustain effect (PEDAL-2).

Note: If one of your MIDI master keyboards allows for connecting volume pedals or switch pedals to it, you can connect your pedals to it instead if you desire.

5) Connect the included power supply to the POWER-IN jack of the OX7 and plug it into your power source. Turn on the power switch on your OX7 as well as your MIDI and amplifier equipment. Play some keys on your MIDI keyboard to make sure the connetions are functional.

6) If you want to use both the upper and lower manuals of your OX7, you will need make the appropriate split settings in your Master keyboard. Set the MIDI OUT channel of the keyboard you will using for the upper manual to MIDI channel 1 and the channel for the keyboard you will be using for the lower manual to channel 2. If you‘re not sure how to do this, see the user‘s manual of your master keyboard or your dealer. Normally your OX7 uses MIDI channel 1 for the upper manual, MIDI channel 2 for the lower manual, and MIDI channel 3 for the pedal bank. It could be necessary for you to change these channel assignments in your OX7. See „EDIT Key/ Global Parameters.“


OX7
Virtual Tonewheel Drawbar
Audio
to
Mixer
STEREO
RIGHT
LEFT / MONO
AUDIO OUT
SWELL
PEDAL
PEDAL-1
PEDAL-2
FOOT SWITCH
PEDAL - IN
MAIN - IN
MIDI
OUT
ON / OFF
FINE TUNE
Adapter
MIDI OUT
MIDI
Master
Keyboard 88 Keys
Adapter
MIDI OUT
Swell Pedal
MIDI PEDAL
Leslie
Slow/Fast
Sustain
Pedal

CONNECTING THE OX7 TO 2 MIDI KEYBOARDS WITH A MIDI MERGE BOX

1) Connect both AUDIO OUT jacks on the OX7 with your amplifier using two (MONO) quarter inch cables. If you not be sending a stereo signal, use just the LEFT/MONO output jack on the OX7. For an optimal Rotor sound you should connect your OX7 in stereo.

2) Connect the MIDI out jack on both keyboards with the MIDI IN J jack on the (optional) MIDI MERGE box. From the MIDI OUT jack on the merge box, connect to the MAIN-IN jack on the OX7. Use 3 standard 5-connector MIDI cables.

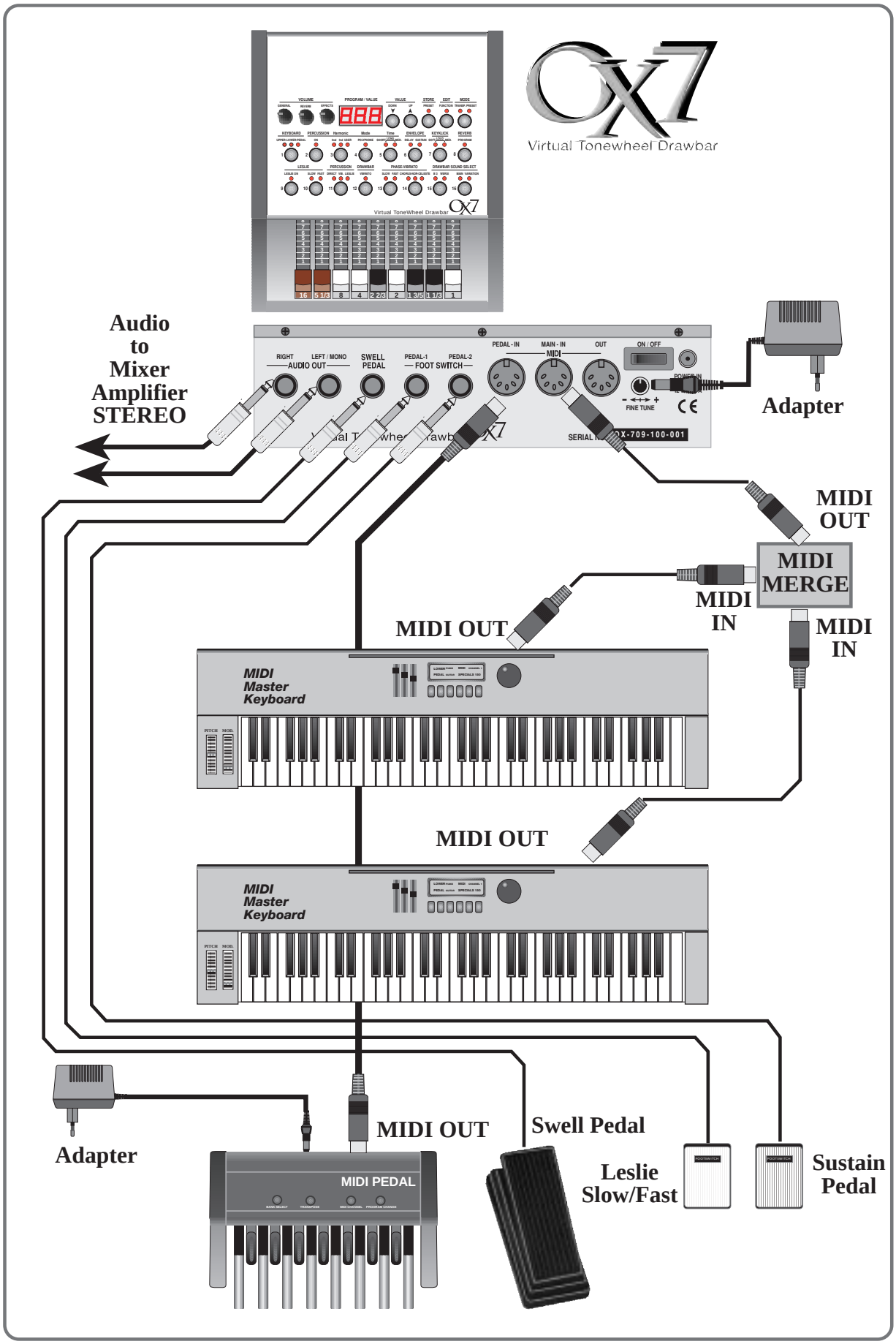
3) If you will be using a MIDI capable bass pedal bank, connect its MIDI out jack with the PEDAL-IN jack of the OX7. Plug in the powersupply for the pedal bank.

4) Connect the quarter inch cable of a volume pedal to the SWELL PEDAL jack, if you will be using one. If you have one, or even better, two foot switch pedals, connect them to the PEDAL-1 and PEDAL-2 quarter inch input jacks. If you only have one pedal, you need to decidewhether you would rather use it to control Rotor rotor speed (PEDAL-1) or sustain effect (PEDAL-2).

Note: If one of your MIDI master keyboards allows for connecting volume pedals or switch pedals to it, you can connect your pedals to it instead if you desire.

5) Connect the included power supply to the POWER-IN jack of the OX7 and plug it into your power source. Turn on the power switch on your OX7 as well as your MIDI and amplifier equipment. Play some keys on your MIDI keyboard to make sure the connetions are functional.

6) Set the MIDI OUT channel of the keyboard you will using for the upper manual to MIDI channel 1 and the channel for the keyboard you will be using for the lower manual to channel 2. If you‘re not sure how to do this, see the user‘s manual of your master keyboard or your dealer. Normally your OX7 uses MIDI channel 1 for the upper manual, MIDI channel 2 for the lower manual, and MIDI channel 3 for the pedal bank. It could be necessary for you to change these channel assignments in your OX7. See „EDIT Key/Global Parameters.“


Virtual Tonewheel Drawbar
Audio to Mixer Amplifier STEREO
RIGHT AUDIO OUT
LEFT / MONO
SWELL PEDAL
PEDAL-1 FOOT SWITCH
PEDAL-2
PEDAL - IN
MAIN - IN MIDI
OUT
ON / OFF
POWER IN
FINE TUNE
Adapter
MIDI OUT
MIDI MERGE
MIDI IN
MIDI IN
MIDI OUT
MIDI Master Keyboard
MIDI OUT
MIDI Master Keyboard
Adapter
MIDI OUT
MIDI PEDAL
Swell Pedal
Leslie Slow/Fast
Sustain Pedal

CONNECTING THE OX7 TO AN ORGAN

1) Connect both AUDIO OUT jacks on the OX7 with your amplifier using two (MONO) quarter inch cables. If you not be sending a stereo signal, use just the LEFT/MONO output jack on the OX7. For an optimal Rotor sound you should connect your OX7 in stereo.

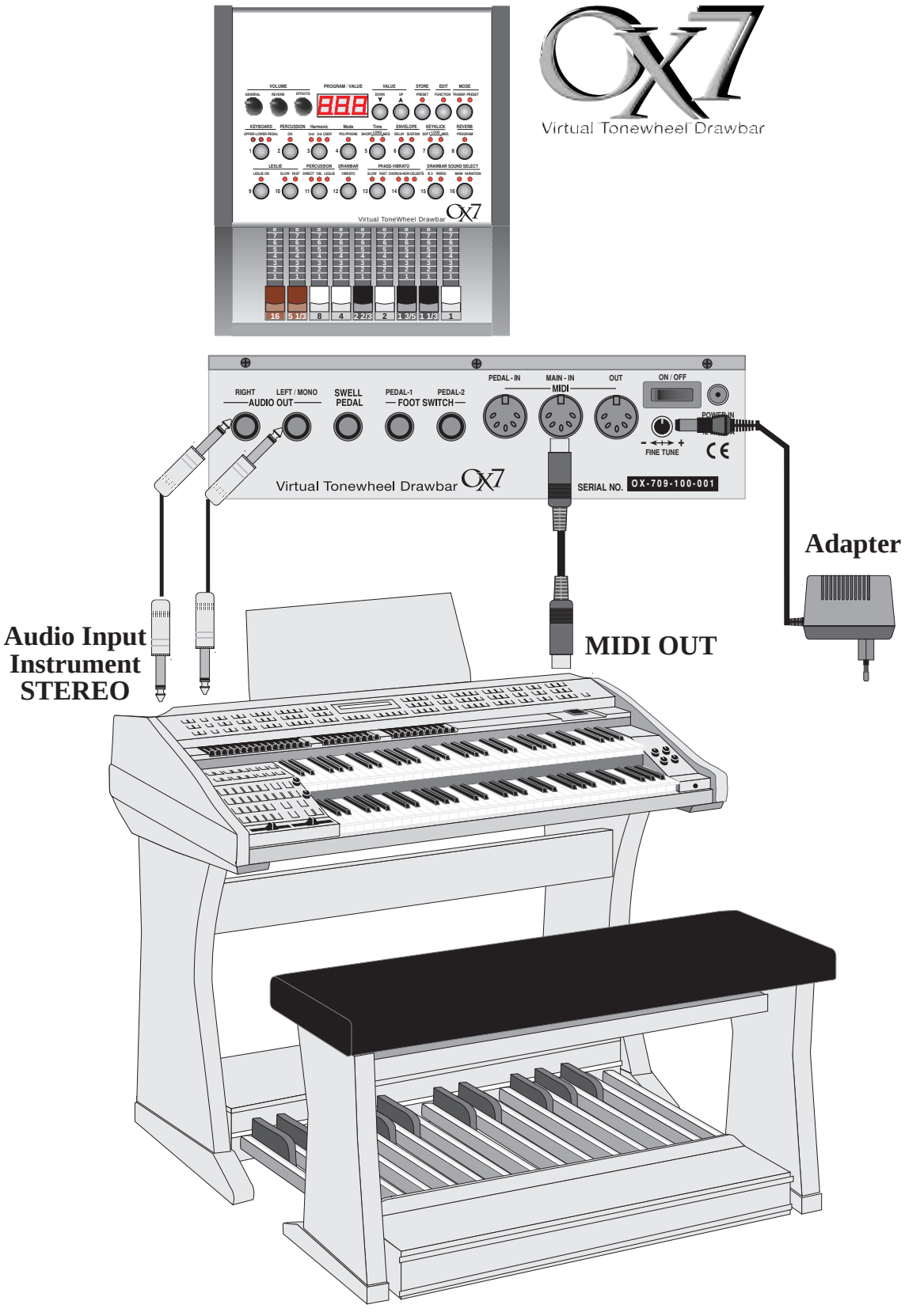
2) Connect the MIDI out jack on your organ with the MAIN-IN jack on the OX7. Use a standard 5-connector MIDI cable.

3) Normally your organ will have a volume pedal, bass pedal bank and foot switch built in. You can use these controllers globally to control both the organ and the OX7.

4) Connect the included power supply to the POWER-IN jack of the OX7 and plug it into your power source. Turn on the power switch on your OX7 as well as your MIDI and amplifier equipment. Play some keys on your MIDI keyboard to make sure the connetions are functional.

5) Normally your OX7 uses MIDI channel 1 for the upper manual, MIDI channel 2 for the lower manual, and MIDI channel 3 for the pedal bank. It could be necessary for you to change these channel assignments in your OX7. See „EDIT Key/Global Parameters.“

NOTICE! The OX7 has a special function to allow adapting to a keyboard. Using a program change command the OX7 can be turned on or off per channel. See the directions in the section „Receiving Program Change Commands“ on page 38.


OX7
Virtual Tonewheel Drawbar
Virtual ToneWheel Drawbar
RIGHT
LEFT / MONO
AUDIO OUT
SWELL PEDAL
PEDAL-1
PEDAL-2
FOOT SWITCH
PEDAL - IN
MAIN - IN
OUT
MIDI
ON / OFF
POWER IN
FINE TUNE
Virtual Tonewheel Drawbar
SERIAL NO. OX-709-100-001
Adapter
Audio Input
Instrument
STEREO
MIDI OUT

CONNECTING THE OX7 TO A MIDI MASTER KEYBOARD AND SEQUENCER

1) Connect both AUDIO OUT jacks on the OX7 with your amplifier using two (MONO) quarter inch cables. If you not be sending a stereo signal, use just the LEFT/MONO output jack on the OX7. For an optimal Rotor sound you should connect your OX7 in stereo.

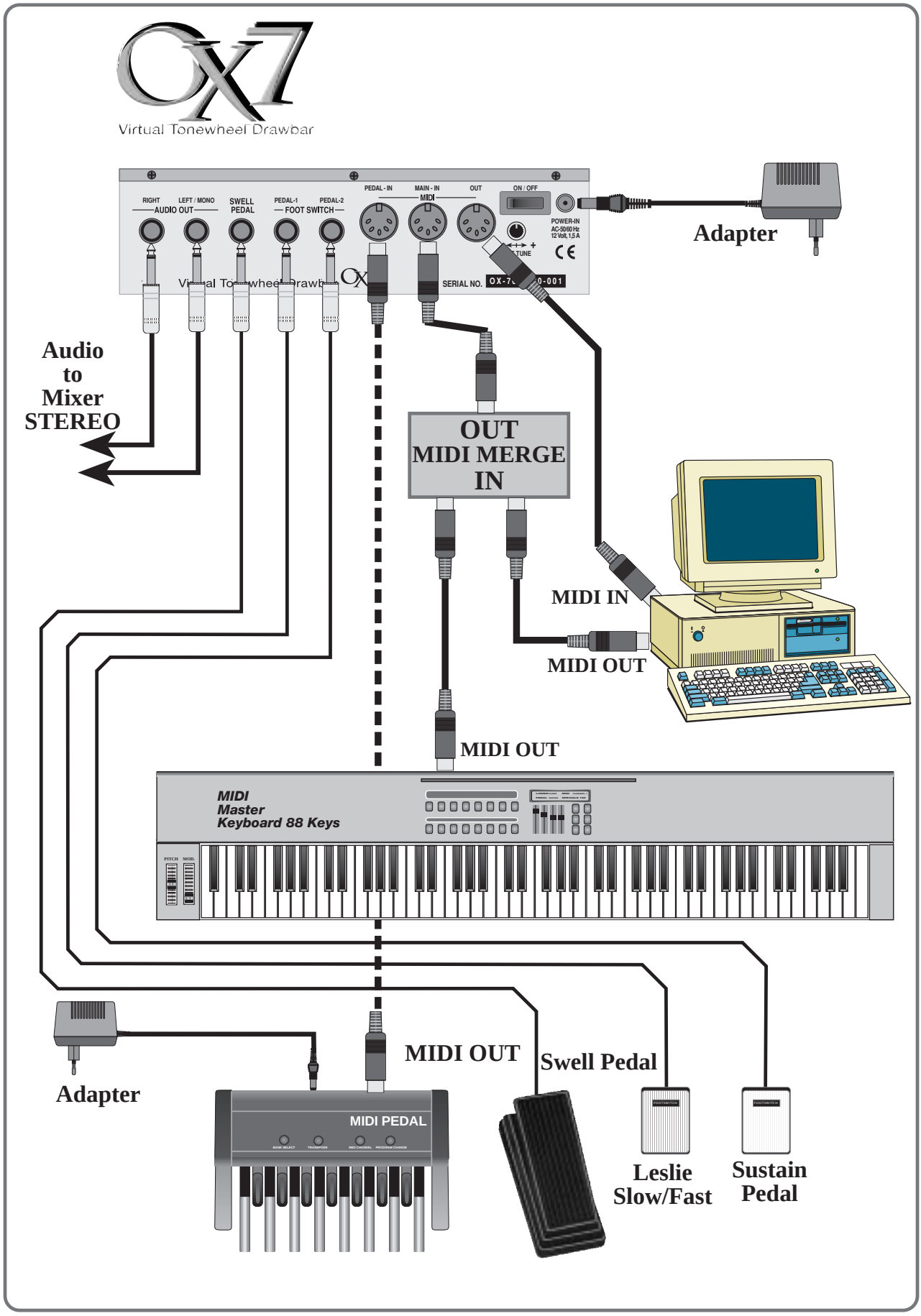
2) Connect the MIDI out jacks on your keyboard and sequencer with the MIDI IN jacks on a MERGE BOX. Connect the MIDI OUT jack on the merge box with the MAIN-IN jack on the OX7. Use 4 standard 5-connector MIDI cables.

3) If you will be using a MIDI capable bass pedal bank, connect its MIDI out jack with the PEDAL-IN jack of the OX7. Plug in the powersupply for the pedal bank.

4) Connect the quarter inch cable of a volume pedal to the SWELL PEDAL jack, if you will be using one. If you have one, or even better, two foot switch pedals, connect them to the PEDAL-1 and PEDAL-2 quarter inch input jacks. If you only have one pedal, you need to decidewhether you would rather use it to control Rotor rotor speed (PEDAL-1) or sustain effect (PEDAL-2).

5) Connect the included power supply to the POWER-IN jack of the OX7 and plug it into your power source. Turn on the power switch on your OX7 as well as your MIDI and amplifier equipment. Play some keys on your MIDI keyboard to make sure the connetions are functional.

6) If you want to use the Upper and Lower manuals of the OX7 at the same time, you will need to set your master keyboard to allow for an appropriate split. If you‘re not sure how to do this, see the user‘s manual of your master keyboard or your dealer. Normally your OX7 uses MIDI channel 1 for the upper manual, MIDI channel 2 for the lower manual, and MIDI channel 3 for the pedal bank. It could be necessary for you to change these channel assignments in your OX7. See „EDIT Key/Global Parameters.“


OX7
Virtual Tonewheel Drawbar
RIGHT
LEFT / MONO
AUDIO OUT
SWELL PEDAL
PEDAL-1
PEDAL-2
FOOT SWITCH
PEDAL - IN
MAIN - IN
MIDI
OUT
ON / OFF
TUNE
POWER-IN
AC-50/60 Hz
12 Volt, 1,5 A
SERIAL NO.
Adapter
Audio
to
Mixer
STEREO
OUT
MIDI MERGE
IN
MIDI IN
MIDI OUT
MIDI OUT
MIDI
Master
Keyboard 88 Keys
Adapter
MIDI OUT
Swell Pedal
MIDI PEDAL
Leslie
Slow/Fast
Sustain
Pedal

Sound Features of the OX7

B3 SOUND

For the last 40 years and still today the HAMMOND B3 organ has been a preference for musicians. Because of the legendary drawbar system, the B3 is still one of the most sought-after instruments. Some of the features of the B3 are:

1. **Drawbar balance of the individual foot registers.**

2. **The „dirty effect“ of the sine generation.**

3. **Key click (the characteristic click noise upon pressing or releasing keys).**

4. **Repitition of the foot registers starting with 2‘.**

These characteristics make possible the legendary B3 sound that reaches the quality standard of professional musician when used with a ROTOR cabinet (an amplified speaker system with rotating horns and woofers). The following is a list of features of the ROTOR cabinet:

1. **The full effect of two speed vibrato.**

2. **The varying acceleration and decceleration of the rotating horns and woofers.**

3. **The presence effect of the horns and the pressure effect of the woofers in low and midrange.**
4. **Combination of ROTOR with phase-vibrato.**

The combination of all the above features give the B3 it‘s characteristic and much-loved sound.

All of these characteristics have been recreated in perfect detail in the OX7. During it‘s development, it was tested in a professional studio under the scrutinizing ear of professional musicians and compared again and again to a „real“ HAMMOND B3 until the result was perfected.

WERSI SOUND

The same attention to detail and perfection was implemented in the creation of the WERSI organ sound, so that the OX7 is equipped with both of the best-known drawbar organ systems.

In order to serve the creative needs of every user, some of the sound effects and variations are implemented in such a way as to give the musician total control of the effect, and others are automatically set when switching from B3 mode to WERSI mode. When the OX7 is switched from B3 mode to WERSI mode, the following characteristics are changed:

1. **The repitition in the foot registers above 2‘ is different, especially in the upper two octaves.**

2. **The balance in foot registers is different, which influences the sound drastically.**

3. **The B3‘s keyclick is switched to the „WERSI Patsch“.**

4. **The „Dirty effect“ in sine generation of the B3 is not applicable in WERSI mode.**

The ROTOR features remain unchanged between the two modes.

You can choose a different organ for each manual. If you use ROTOR, its effect will be the same in both manuals and modes with the exception of the pedal manual because it is a global effect.

Other global effects (effects common to the entire instrument) are reverb and the variants of the phase-vibrato. MIDI data that is received on the PEDAL IN port are automatically mapped to the bass manual. In other words, all MIDI channel numbers received here are replaced with the channel number you choose globally for the bass manual (PEDAL).

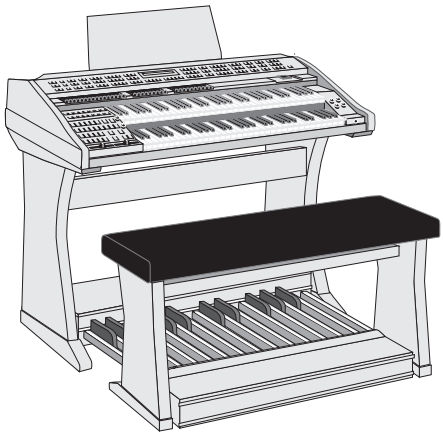
We have preprogrammed presets for you with the intent of motivating you to create your own Organ Setups. Have fun with your new OX7.

The two best-known drawbar organs worldwide:
The Hammond B3/H100
and the Wersi Spectra/Helios
as well as the legendary ROTOR
all in one instrument: the new OX7.

HAMMOND B3 with Leslie

Hammond and Suzuki are tragemarks of Suzuki Musical Instruments in Japan.

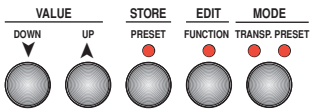
WERSI CD-Organ DX 700



THE FRONT PANEL OF THE OX7

DEMO PLAY

Your OX7 contains demo-sequences which will give you an overview of the various features and sound characteristics of the module:



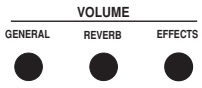
1) Press the EDIT button at the upper right on the front panel. The LED above the button blinks. Now press the MODE button just to the right of the EDIT button. In the display appears an abbreviation, assuring you that you are now in DEMO PLAY mode. The right LED above the MODE button blinks at a fast rate.

2) The demo-sequences are numbered starting with 0 upward. This number is shown in the display after the abbreviation „dE“. An „A“ in this position means that ALL demo-sequences are selected for play. Use the VALUE UP/DOWN buttons to select individual sequence numbers. The UP button selects the next sequence in the series and the DOWN button the previous one. To start play of the selected sequence(s), press the MODE button. During playback of a sequence, you have access to all the play functions of your OX7. This means for example, that you can use the drawbars to change the timbre of the playback sounds.

3) To stop playback, press the EDIT button and then the MODE button. If you want to hear another sequence, repeat step 2. Otherwise you can leave DEMO PLAY mode by pressing the EDIT button.

Note: MIDI data generated in DEMO PLAY will NOT be sent to the MIDI out port. MIDI data input to the OX7 during DEMO PLAY will only be received on the MIDI MAIN IN port.

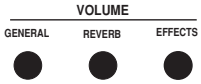
MAIN VOLUME CONTROL



The MAIN VOLUME control sets the overall volume of your OX7. The level set here is also the maximum level that can be reached when using a volume pedal (when the pedal is pressed all the way).

Note: When MIDI controller #11 (EXPRESSION) data is received via MIDI IN, the overall volume of the OX7 is affected. However, when MIDI controller #7 (VOLUME) data is received, this affects ONLY the channel to which it is assigned (UPPER, LOWER oder PEDAL).

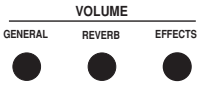
REVERB CONTROL



The Reverb Control sets the intensity of the presently selected reverb program. To guarantee the proper mix between dry signal and reverb, reverb intensity can also be controlled using an external swell pedal. The level that is set using this control will be the maximum amount of reverb when the swell pedal is fully depressed.

Note: The setting of this control will affect all three manuals (UPPER, LOWER & PEDAL). MIDI Controller #91 (REVERB SEND LEVEL) data can also be sent to the upper manual MIDI channel to change this value. The resulting setting will then affect all three manuals.

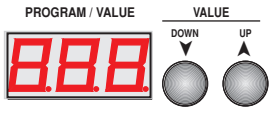
EFFECTS CONTROL



This control sets the level of the percussion effect. Percussion Effect and the available variants will be discussed later in the section „PERCUSSION Button“.

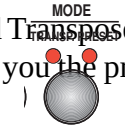
Note: The setting of this control will affect all three manuals (UPPER, LOWER & PEDAL). MIDI Controller #16 (EFFECT POT) data can also be sent to the upper manual MIDI channel to change this value. The resulting setting will then affect all three manuals.

VALUE UP/DOWN BUTTONS



Some of the parameters of your OX7 require you to input a particular value. Using these buttons you can change the presently selected value in the display. Depending on the present mode, the display will show either a preset number or the value of a particular parameter. The value is raised by pressing the UP button and lowered by pressing the DOWN button. If you hold one of these buttons down, after a moment, the values will increase/decrease in increments.

MODE BUTTON



This button allows you to toggle between Preset Mode and Transpose mode. The appropriate LED above the button will light to show you the presently active mode.

PRESET MODE

Preset mode is the normal play mode of your OX7. A "preset" is a programmed group of settings that are used often and can be recalled; eg: the position of drawbars. Your OX7 is equipped with 99 freely programmable presets. They are preprogrammed for you at the factory with stardardized settings. You can cycle through them using the VALUE UP/DOWN buttons. You see the presently selected preset (p1…P99) in your display.

As easy as cycling through the available presets is availability to numerous practical variations and drawbar settings, as well as effects, to give the organist ample opportunity to express himself. The OX7 registers and saves every change in settings you make within a preset. These changes remain in effect as long as the preset remains active. Using the STORE button, you can save your changes permanently or copy them to another preset number. (s. STORE Taste).

Note: When you first turn your OX7, you will be in Preset mode.

TRANSPOSE MODE

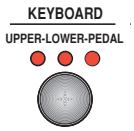
Using transpose mode you can change the pitch output of y the manuals in half step increments. This makes it possible to play in keys that may be difficult for you.

1) Press the MODE button. The LED for transpose mode lights. In the display you see the presently selected transpose value.

2) Usethe VALUE UP/DOWN buttons to select the appropriate value. You can transpose within the range of +5 to -6 halfsteps. When finished, press the MODE button again to return to preset mode.

Note: When you turn on your OX7, the transpose value is reset to zero for reasons of practicality.

SELECTOR FOR UPPER, LOWER AND PEDAL



As already mentioned your OX7 is equipped with 3 multitimbral manuals that each have their own registers. Using an external bass pedal bank and two MIDI keyboards (or one split-capable keyboard), it is possible to play all three manuals simultaneously. Pressing the keyboard button cycles you through the various manuals, activating them (UPPER, LOWER, PEDAL). For each manual you can change drawbar settings. One of the three LED's above the keyboard button shows you which manual is presently active.

UPPER MANUAL
The upper manual is the one that is normally used for solo registers. In the default setting is this manual the active one.

LOWER MANUAL
The lower manual is used for normal playing with an accompaniment register.

PEDAL
The pedal or bass manual allows accompaniment using a bass instrument or pedal bank.

PEDAL MODULATION

You have the option of adding a second voice to the bass (Pedal) manual in order to add pedal modulation to your bass sound. Proceed using the following instructions:

1) Make sure the KEYBOARD button is in "PEDAL" (the Pedal LED is lit) and press the EDIT button. The LED above the EDIT button blinks. Press the KEYBOARD button again and note that the "Pedal" LED above the KEYBOARD button blinks as well.

2) UseteVALUE UP/DOWN buttons to adjust the volume level of the modulation. The presently selected value is shown in the display. Values can range between 0 cents (no modulation) and 25 cents (strong modulation). When you have selected the desired value, press the KEYBOARD button.

3) The selected value will be in effect until you change to another preset. If you would like to save the pedal modulation value as part of the preset, press the EDIT button once and then the STORE button twice.

PERCUSSION ON - OFF

The effect percussion affects the attack phase of the envelope curve of your organ sound. When you press a key, a synthesized attack can be added, amplified and varied. A good organist will recognize many different percussion variations. Your OX7 offers you two preprogrammed percussion variants as well as one freely programmable variant for selection. Using the PERCUSSION button, you can turn on or off the percussion effect that is set in the "HARMONIC" function for the selected manual. The LED above the button shows whether or not the effect is on.

HARMONICS OF THE PERCUSSION

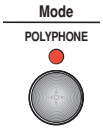
Here you set the percussion variant of the presently selected preset. The preprogrammed variants are "2nd" and "3rd" here. The setting "USER" allows you to program your own variant. To program a user-defined percussion variant, execute the following steps:

1) Make sure that the HARMONIC button is in "USER" position. (The appropriate LED is lit), and then press the EDIT button. The LED above the EDIT button blinks. Press the HARMONIC button. The LED above the HARMONIC button blinks, too.

2) Use the drawbars to generate your own percussion. After you have finished, press the USER button.

3) The selected value will be in effect until you change to another preset. If you would like to save your user-defined percussion variant as part of the preset, press the EDIT button once and then the STORE button twice.

PERCUSSION MONOPHON OR POLYPHON



Use this button to switch your OX7 to polyphonic percussion mode. The LED above the button is lit, and the presently selected percussion variant is now globally in effect for all manuals. You can activate or deactivate percussion with the "PERCUSSION" button. The default setting for polyphonic percussion is OFF.

SELECT THE LENGHT OF THE PERCUSSION

With the TIME button you set the decay time for the percussion effect for the presentl selected manual. There are three settings: SHORT, MED, LONG. Pressing the TIME button repeatedly cycles through the three settings, evidenced by the 3 LED's above the button.

SHORT: Percussion effect sounds only for a short time. The LED under "SHORT" is lit.

MED: Percussion effect decays at a medium rate. The LED under "MED" is lit.

LONG: The amount of time before the end of the percussion effect is long. Both LED's "SHORT" and "MED" are lit.

Note: You will only hear the percussion effect when the PERCUSSION button is active (LED is on).

SELECT SUSTAIN OR DELAY

The ENVELOPE button allows you access to the various programmable segments of the presently active manual's drawbar envelope curve. The following are the possible settings:

DEFAULT: None of the LED's under the ENVELOPE button are lit. Attack, sustain and delay relationships are normal.

DELAY: The attack (amount of time after pressing a key until the level of the tone has reached its loudest) is longer; somewhat like the time it takes a pipe organ pipe to reach its full resonance. The LED under "DELAY" is lit.

SUSTAIN: This is the amount of time that a note sounds after a key has been released; somewhat like the sustain pedal of a piano allows the string to continue vibrating long after its key has been released. The LED under "SUSTAIN" is lit.

DELAY and SUSTAIN**:** Both the attack time (DELAY) and the decay time (SUSTAIN) can be lengthened. In this case both LED's are lit.

Note: The sustain effect can also be activated using the PEDAL-2 jack and a foot switch pedal. If you already have DELAY active, SUSTAIN will be added to it in this case.

SELECT KEYCLICK

Typical of electromagnetic organs such as the HAMMOND B3 is the characteristic key click noise that was an unintentional result of dirty key switch contacts and the not totally synchronized switching of the sinus foot register.

What was for the makers of these organs an unwanted sound, found favor among musicians who included the "keyclick" as part of what a good organ sound should have, and it became a "feature."

Using the KEYCLICK button, you can simulate this "feature" for the presently active manual. Repeated pressing of the button gives you access to four possible settings:

DEFAULT: No keyclick for the drawbar register is added. No LED's below the KEYCLICK button are lit. This is the standard setting.

SOFT: A soft, subtile keyclick is simulated for the drawbar register. The LED under "SOFT" is lit.

MED: For the drawbar register of the presently active manual a medium loud keyclick is heard. The LED under "MED" is lit.

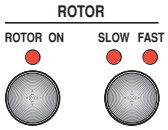
LOUD: For the drawbar register of the presently active manual a loud keyclick is heard. Both LED's are lit.

SELECT REVERB

Use this button to cycle through the available reverb programs. There are presently six to choose from. Pressing the REVERB button repeatedly toggles through them.

If you want to save a reverb program within the present preset, use the STORE button.(see: "STORE button")

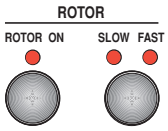
ROTOR ON - OFF



This button turns the ROTOR effect on and off. ROTOR is a simulation of the special amplifier cabinet with mechanically rotating speakers, that was invented in the days of Tone-Wheel organs by Donald Rotor. The rotating speakers resulted in a doppler effect, creating a complex waveform of frequency and phase vibrati.

When ROTOR effect is on, the LED above the ROTOR ON button is lit.

ROTOR SPEED SLOW/FAST



Use this button to adjust the rotation speed (in a virtual sense) of the rotating speakers. Two speeds are available.

The "SLOW" setting gives you a cathedral-like, swinging effect. The "FAST" setting results in a vibrato-like sound. The appropriate LED is lit. If you change the speed while holding a note or chord on your keyboard, your OX7 simulates the actual slowing or accelleration of the rotating speakers, a very complicated process electronically.

Note: You will only hear ROTOR when the "ROTOR ON" button has been pressed and its LED is lit.

PERCUSSION ROUTING

Using the PERCUSSION ROUTING you can send the percussion through three possible effects:

DIRECT: Percussion is directly returned without any effect.

VIB: Percussion is sent through Vibrato effect before it is returned.

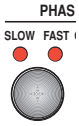
ROTOR: Percussion is sent through ROTOR before being output. In order for this to happen, the ROTOR effect must be active.

VIBRATO ON - OFF

This button turns on or off one of the three available phase vibrato effect types for the drawbar section.

The orginal signal is modulated with a phase shifted waveform to give a delay or frequency-cancellation effect.

Your OX7 offers you a choice of three vibrato varians: CHORUS, NORMAL, CELESTE. Pressing the VIBRATO button turns on or off the presently selected vibrato type (it's appropriate LED is lit).



SELECT VIBRATO SPEED

Use this button to toggle through the two available vibrato speeds.

SLOW: slow phase vibrato… a rotating wave-like effect.

FAST: fast phase vibrato… a whirling effect.

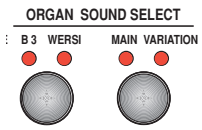
The appropriate LED is lit.

Note: You will only hear vibrato if the DRAWBAR VIBRATO Button (#12) is pressed.

SELECT VIBRATO TYPE

There are three available alternative vibrato types. Pressing the VIBRATO TYPE button cycles through CHORUS, NORMAL, CELESTE. The appropriate LED is lit.

SELECT THE DIFFERENT ORGANS



Use this buttons to switch total parameter sets between 4 complete and complex drawbar organ systems:

Hammond B3 => B3 and the MAIN Button
Simulates the electromagnetic "Hammond B3" organ. Selected from the palatte of offerings by Laurens Hammond, the B3 was first introduced in 1955. The B3, with its "dirty" sound has become a legend among jazz musicians and rock artists alike.

Hammond B3 => B3 and the VARIATION Button
Simulates the electromagnetic "HAMMOND H100" organ.

WERSI Spectra/Atlantis => WERSI and the MAIN Button
The sound of the modern electronic WERSI entertainer organ. Developed by the german Franz family, the WERSI organ has acclaimed appreciation because of it's crystal clear sound by artists in all areas of music. The most famous representative of the WERSI organ series is the "one-man-orchestra" Franz Lambert.

WERSI Helios/Galaxis => WERSI and the VARIATION Button
This Organ was developed in the 70th and one of the famous WERSI organs.The most famous representative of this WERSI organ series was Klaus Wunderlich.

OVERDRIVE-EFFECT

Overdrive effect came into being by overdriving the old tube amplifiers of the ROTOR cabinet. Rock bands in the early 70's such as Deep Purple (John Lord) brought this effect popularity.

Use the modulation wheel on your controller keyboard to simulate this overdrive. The further you turn the wheel, the more distortion will be applied to the signal. If you are using a WERSI CD organ as your controlling keyboard for the OX7, use the VCF control.

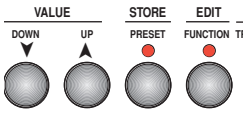
Be sure to check the position of your modulation wheel (or VCF control) in order to avoid unwanted distortion.

Note: Overdrive applies to all three (UPPER, LOWER, PEDAL) manuals. MIDI Controller #1, when received at the MIDI IN port on the MIDI channel of the UPPER MANUAL, will apply to all manuals.

STORE PRESETS

Changing drawbar settings will only remain in effect as long as the present presest is active.

You can use the STORE button to save your changes, so that the next time you activate the present preset, your settings will be as they were the last time you saved them using this button:



1) Press the EDIT button. The LED above it blinks. Next press the STORE button and its LED blinks as well.

2) If you do not want to overwrite the presently saved values, use the VALUE UP/DOWN buttons to select a free preset position.

3) Use the STORE button again to confirm your save. If you change your mind, press the EDIT button. The preset will not be overwritten. You will see „nUP“ in the display indicated that the preset was „not updated.“Press the EDIT button again to return to Preset Mode.

Note: Using the STORE button overwrites the selected preset. From now on your OX7 will select this preset as the active one.

CHANGING SOUND SETTINGS

The following settings remain even after turning the OX7 off and can then only be changed by using the function „Reset to Factory Presets“. (see P. 41)

CHANGING ROTOR SPEED

The two speeds, „SLOW“ and „FAST“ can be individually set to your own taste.

Setting the speed for SLOW

1. Switch the rotor on first and then to SLOW.
2. Press the EDIT button.
3. Press the SLOW/FAST button. The presently selected speed appears in the display and the Edit and Slow LED’s blink. (Factory preset: 56)
4. Using the UP/DOWN buttons, you can now set the speed to any value between 1 and 128.
5. Press the SLOW/FAST button again to save your new setting. („nEu“ in the display) Use the EDIT button to cancel your changes. (The display shows „non“.)

Setting the speed for FAST

1. Switch the rotor on first and then to SLOW.
2. Press the EDIT button.
3. Press the SLOW/FAST button. The presently selected speed appears in the display and the Edit and Slow LED’s blink. (Factory preset: 83)
4. Using the UP/DOWN buttons, you can now set the speed to any value between 1 and 128.
5. Press the SLOW/FAST button again to save your new setting. („nEu“ in the display)

Use the EDIT button to cancel your changes. (The display shows „non“.)

SETTING THE LENGTH OF PERCUSSION

The three values for percussion length, SHORT, MEDIUM, LONG have been
preset for you, but can be changed according to your personal taste.

1. Switch percussion on first.

2. Using the TIME button, select the desired length, SHORT, MEDIUM, LONG, that you wish to change.

3. Press the EDIT button.

4. Press the TIME button. In the display you will see the presently selected value and both Edit and Time LED's will blink. Factory presets:
   SHORT 73
   MEDIUM 84
   LONG 102

5. Using the UP/DOWN buttons adjust the value within the range of 1...128.

6. Press the TIME button again to save your changes. („nEu" in the display.) Use the EDIT button to cancel your changes. (The display shows „non".)

SETTING SUSTAIN LENGTH

Using the SUSTAIN button, you can set the sustain length for each manual separately according to your personal taste.

1. Turn Sustain on first using the SUSTAIN button.

2. Press the EDIT button.

3. Press the SUSTAIN button again. In the display you will see the presently selected sustain length. Factory preset: 90.

4. Using the UP/DOWN buttons, set the length to a value between 1...128.

5. Press the SUSTAIN button again to save your changes. („nEu" in the display.) Use the EDIT button to cancel your changes. (The display shows „non".)

CHANGE KEYCLICK (WERSI MODE ONLY)

In WERSI mode the characteristics of keyclick can be changed.

1. First turn on WERSI mode in the section DRAWBAR SOUND SELECT.

2. Switch the Keyclick to the setting LOUD.

3. Press the EDIT button.

4. Press the KEYCLICK button. In the display you will see the presently selected value. Factory preset: 40.

5. Using the UP/DOWN buttons change to a desired value between 1...128.

6. Press the KEYCLICK button again to save your changes. („nEu“ in the display.) Use the EDIT button to cancel your changes. (The display shows „non“.)

STEREO PANORAMA FOR PERCUSSION

On a Hammond organ the percussion sound usually comes from the middle, ie. mono. The OX7 gives you the ability to position the percussion within the stereo panorama from left to right according to which manual you use. You will only hear this effect if you route your percussion using the DIRECT setting.

1. First turn on Percussion.

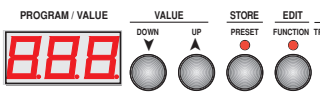
2. Press the EDIT button.

3. Press the PERCUSSION button. In the display appears momentarily „PAN“ after which you will see the presently selected value. Factory preset: 0. (no stereo) The LED’s Edit and PERCUSSION will blink.

4. Using the UP/DOWN buttons change to a desired value between 0...30. The higher the value, the greater the panorama in stereo according to the manual played. High notes sound more to the right, low notes more to the left.

5. Press the PERCUSSION button again to save your changes. („nEu“ in the display.) Use the EDIT button to cancel your changes. (The display shows „non“.)

EDIT BUTTON



Using the EDIT button brings you to the edit mode of your OX7. Here you can set a series of global parameters especially controlling the MIDI system. In addition you have the option of saving all your present preset settings over MIDI (Bulk Dump) or loading previously saved settings.

1) Press the EDIT button. The blinking LED above the button signals that edit mode is active.

2) Use the VALUE UP/DOWN buttons to cycle through the available parameters in order to get to the one you want to change. The display shows you appropriate abbreviations for the active parameters. (A description of the available parameters follows shortly.)

3) Press the EDIT button again to see the value of the present parameter or function.

4) Use the VALUE UP/DOWN buttons to change the value according to your desire.

5) Press the EDIT button again and the new value or function is saved and you are returned to the starting point.

GLOBAL PARAMETERS

Pressing the EDIT button allows you access to the following parameters and their respective values:

SELECT MIDI CHANNEL FOR UPPER
(MIDI Channel assignment for the upper manual: OFF, 1 ... 16)
Use this parameter to set the MIDI channel used to play the upper manual of your OX7. This channel should be the same as the channel you have assigned in your MIDI controller keyboard or the split you want to play the upper manual. The default value is channel #1. If you want to use another channel, set it here. The setting „OFF“ turns the entire manual off. If you are using equipment that is capable of playing more than one MIDI channel at a time (eg: more than one keyboard or pedal bank, split-capable keyboard), make sure you have a separate channel set for each manual.

Notice: Even using a keyboard without a split point set, you can still use the areas UPPER and LOWER. See the section called „Split point on one MIDI channel“ on p. 39.

SELECT MIDI CHANNEL FOR LOWER

(MIDI Channel assignment for the lower rmanual: OFF, 1 ... 16)
Use this parameter to set the MIDI channel used to play the lower manual of your OX7. This channel should be the same as the channel you have assigned in your MIDI controller keyboard or the split you want to play the lower manual. The default value is channel #2. If you want to use another channel, set it here. The setting „OFF“ turns the entire manual off. If your MIDI keyboard can only play one channel, make sure this manual is set to „OFF“. If you are using equipment that is capable of playing more than one MIDI channel at a time (eg: more than one keyboard or pedal bank, split-capable keyboard), make sure you have a separate channel set for each manual.

SELECT MIDI CHANNEL FOR PEDAL

(MIDI Channel assignment for the Bass pedal bank: OFF, 1 ... 16)
If you have access to a MIDI-capable foot pedal bank, you can set the channel here to be used for the pedal manual of your OX7. The default value is channel #3. If you want to use another channel, set it here. The setting „OFF“ turns the entire manual off. If your MIDI keyboard can only play one channel, make sure this manual is set to „OFF“. If you are using equipment that is capable of playing more than one MIDI channel at a time (eg: more than one keyboard or pedal bank, split-capable keyboard), make sure you have a separate channel set for each manual.

PITCHBEND RANGE

(The range limits for pitchbend information: 1 ... 12)
Here is where you set the maximum number of half steps that the pitch of a note can be bent using a controller from your MIDI keyboard. The increments are half steps and the maximum range is twelve; one octave. The default value is 12 and should be set to match the value set for pitchbend range in your MIDI controller keyboard.

RECEIVE CONTROL CHANGE COMMANDS

(Settings: OFF or ON)
Using this parameter you can determine whether or not incoming control change information will be processed. Control change commands contain special information about elements that relate to control-oriented functions such as Volume level (Controller #7), Stereo panorama (Controller #10), or MIDI Bank selection (Controller #0). Your OX7 is also capable of sending MIDI data, especially data relating to the drawbar system, and because of this, it might be necessary for incoming controller information to be squelched. In this case, set this command to „OFF“.

TRANSMIT CONTROL CHANGE COMMANDS
(Settings: OFF or ON)
If necessary, setting this function to "OFF" prohibits sending control change data from the OX7 to external MIDI devices (eg: drawbar movements, pedal confirmation).

RECEIVING PROGRAM CHANGE COMMANDS
(Settings: OFF, ALL, 1 to 128) The OX7 can react differently to incoming program change information.

Setting OFF
No Program Change information is processed.

Setting ALL
Program Change information will be received on the MIDI channel selected under UPPER (factory preset 1) and presets 1 to 99 can be selected.

Setting 1 to 128
When a program change command is set between 1 and 128, the OX7 will only play when the set value is received. The advantage of this is that you can choose a particular key on your keyboard or organ to turn on and off all three of the OX7‘s MIDI channels UPPER, LOWER, PEDAL individually. Any other program change information received will not be processed or reacted to by the manual in question.

Example 1: using WERSI instruments ALPHA DX350, BETA/DELTA DX4/500, PRISMA DX5, OMEGA DX10, ARCUS/CD-Line:

If you use one of the instruments above with your OX7, set your program change number to „1“. Set all of the built-in drawbar systems to „0“. Now the OX7 will only play when you select the drawbar sound on your organ.

As soon as another instrument on the organ is selected, the OX7 will not be heard. The manuals of your OX7, UPPER, LOWER, PEDAL can be set individually.

NOTICE: Obviously the organ(s) you are using with your OX7 need to be set to send Program Change information. In the case of the PRISMA and OMEGA, this can only be done manually and not from the „Total Preset.“

Example 2: Portable Keyboard
Many keyboard have the option of switching the function of their different sound key off. This key can be effectively used to control your OX7. Set your OX7 to receive the appropriate program change number. Now the OX7 will only play when you press the appropriate sound key on your keyboard. If you select another instrument on your keyboard, the OX7 will automatically stop playing. The manuals of your OX7, UPPER, LOWER, PEDAL can be set individually.

SEND PROGRAM CHANGE COMMANDS
(Settings: OFF or ON)
In the same way as in the previous parameter, you can sqelch the transmission of Program Change information by setting this function to "OFF" so that changing a preset using the VALUE UP/DOWN buttons, only affects the OX7 internally. No Program Change data is sent to the MIDI OUT port.

RECEIVE FUNCTION DATA
(Settings: OFF or ON)
This function allows you to control your OX7 from MIDI. All buttons have a spezial MIDI Controller. At the end of this manual, you will find a list of all this controllers.

SEND FUNCTION DATA
(Settings: OFF or ON)
Set this function to "ON" if you want to send all buttons like "Rotor Slow/ Fast", "Keyclick" or "Percussion On-Off" via MIDI. You can record the controller in a sequencer.

SPLIT POINT ON A MIDI CHANNEL
Setting: ALL or 1 to 84
If the keyboard connected to your OX7 has no split point, your OX7 can have it’s own split point.

ALL: The MIDI channel set in the area UPPER is played by the upper manual without a split point.

1 to 84: Enter the split point as MIDI key number. The MIDI channel set in the area UPPER will play the upper manual of the OX7 up to the MIDI key number, and after that the lower manual will be played.

SPLIT POINT FOR THE LOWER MANUAL
Setting: ALL or 1 to 84
With this function the lower manual can be set to play only above the split point. The advantage is that you can play chords with your left hand on your controller keyboard without worrying about bass notes coming from the OX7.

ALL: The lower manual is completely on.

1 to 84: 1 to 84: Enter the split point as MIDI key number.
The MIDI channel set in the area LOWER will play the upper manual of the OX7 up to the MIDI key number.

MIDI MERGE FUNCTIONS
The OX7 is equipped with an internal MIDI Merge function which combines incoming MIDI information from both MIDI IN ports and sends the total MIDI information to the MIDI OUT port.

Example: You're playing on your organ with your upper manual and your pedal manual and you want to record your piece into a sequencer. If this parameter is set to ON, all MIDI information from your keyboard including all the information generated by your OX7 sent out the MIDI OUT port and to a sequencer.

OFF: MIDI Merge is turned off.

ON: MIDI Merge is turned on. All incoming data on both the MAIN IN and MIDI PEDAL IN as well as all OX7 data (eg: drawbar movements, rotor speed control) will be combined and sent to the MIDI OUT port. But the OX7 will not play the incoming events.

Reset Factory Presets
If you have altered sound data and want to get back to the factory preset sounds, use this function. Also included in this function are rotor speed settings, Sustain settings, percussion length, percussion panorama, keyclick length (Wersi mode).

SEND MIDI DUMP

This function allows you to send a MIDI dump containing all the important parameter settings and presets of your OX7. The "SYSEX Send Enable" parameter must be set to "ON" in order to do this. Press the EDIT button to begin the bulk dump. The progress will be shown in the display.

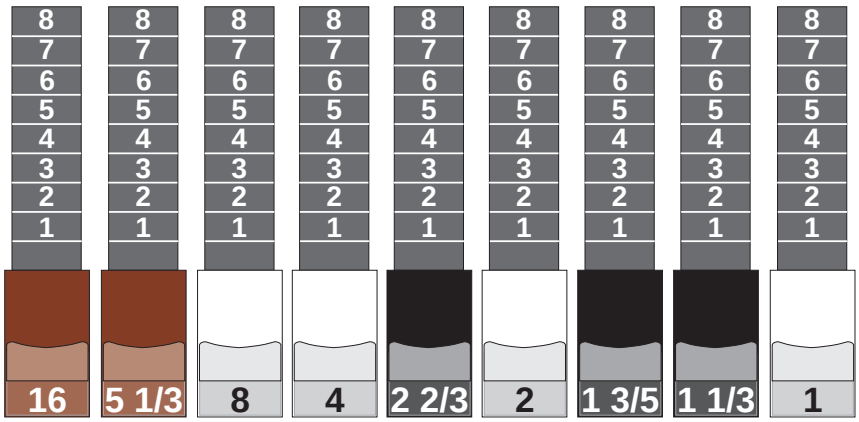
THE DRAWBARS

Using the drawbars, you can adjust the volume level of the 9 classical octave foot registers (16', 8', 5 1/3', 4', 2 2/3', 2', 1 3/5',1 1/3', 1'). This is the heart of your organ sound.

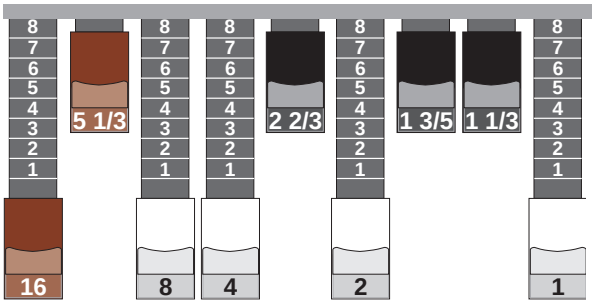
Because the timbre of all natural instruments is a synthesis of variously loud overtones in the overtone series, the drawbar organ with its fully variable sine wave drawbars is capable of imitating closely all natural instruments. In the years of composer Johann Sebastian Bach, the organ was called "König der Instrumente" (King of all instruments) for this reason. It is of course impossible to reproduce natural sounds exactly using the drawbar system. The organ maintains in own personal characteristic timbre, which gives it its identity. It is nevertheless the forefather of the modern synthesizer, which can replicate in detail the timbre of natural instruments.

All of your drawbar settings for all of the foot registers can be saved permanently within the presently selected preset using the "STORE" button. (see: "STORE" button.) When you change presets, the drawbar settings of the last saved version are active. You can of course save your registrations separately for each of the three manuals.

Note: The drawbars are also used for setting the timbre of user-defined percussion. (see: HAMONIC Button.)

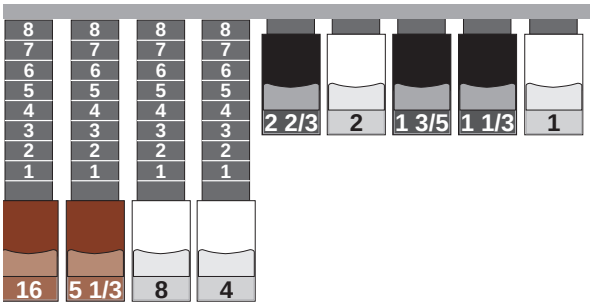


DRAWBAR SETTINGS



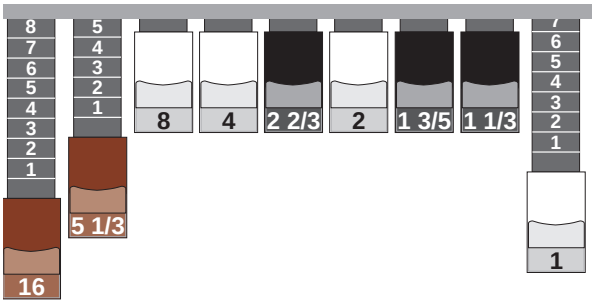
Full Tibia / Flutes

All the full-numbered drawbars pulled with Leslie or Vibrato give a full, direct drawbar organ sound.



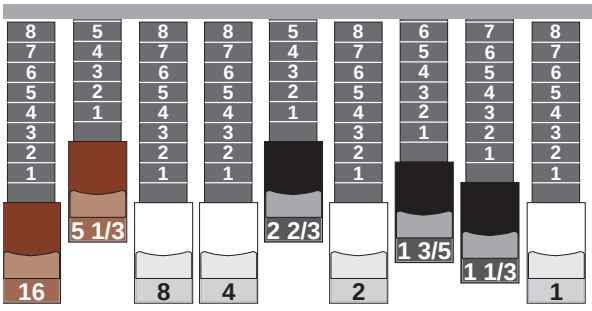
Horns / Dark

This setting is especially interesting when used with a 2nd or 3rd percussion and Leslie or Vibrato. This is a favorite of jazz musicians using a short percussion setting and a loud keyclick, whereas entertainer organists would use typically a long percussion and a soft keyclick.



Open Drawbar Setting

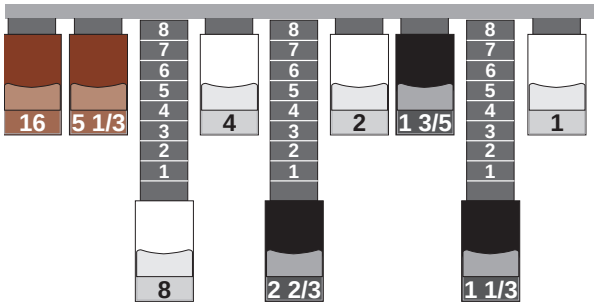
This broad setting of drawbars when used with Leslie or Vibrato gives a pleasant sound for many musical styles.



Drawbar Setting "Full" mixed sound

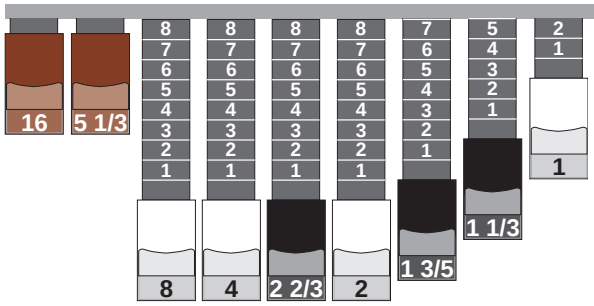
This setting is effective in both entertainment and sacred music as "Plemun/Tutti." Use Vibrato and/or Leslie as desired.

DRAWBAR SETTINGS FOR SOLO REGISTER



Clarinet
Drawbar Setting

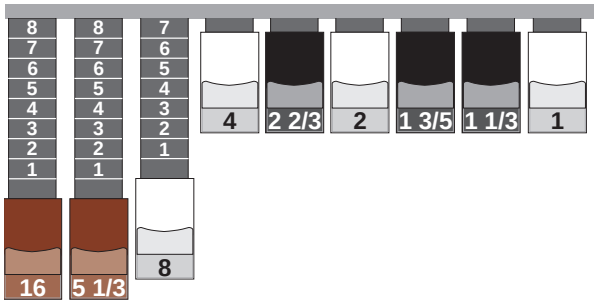
The setting sounds similar to a clarinet or, in combination with a soft attack, like a "Gedackt Register" on a pipe organ.



Trumpet
Bright Setting

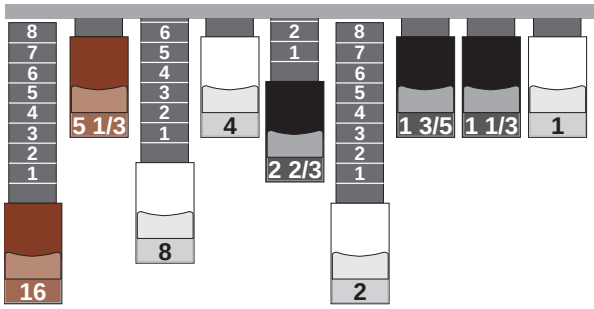
Trumpet Timbre built on the 8' Register

You can also use this setting for percussion. On the old Hammond H100, this setting was called "guitar". Klaus Wunderlich has used this percussion setting for many many H100 recording projects.



Horn Setting

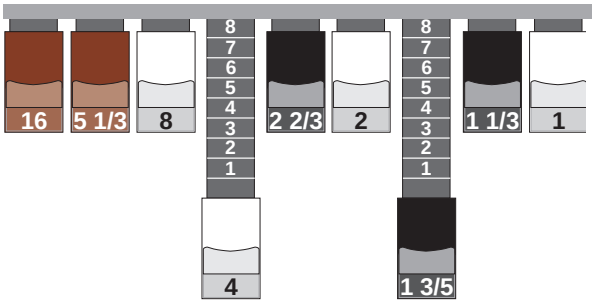
Dark, horn-like drawbar setting that can be effectively used with or without vibrato.



Flute
Theater Organ Sound

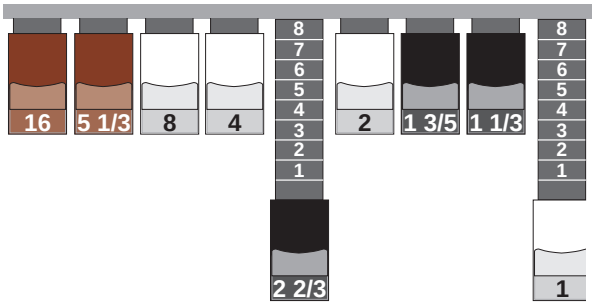
This setting, when used with vibrato, reminds one of the typical old theater organ sound. Add delay to this setting to round out the sound and to complete its fullness.

DRAWBAR SETTINGS FOR PERCUSSION



Xylophone Percussion

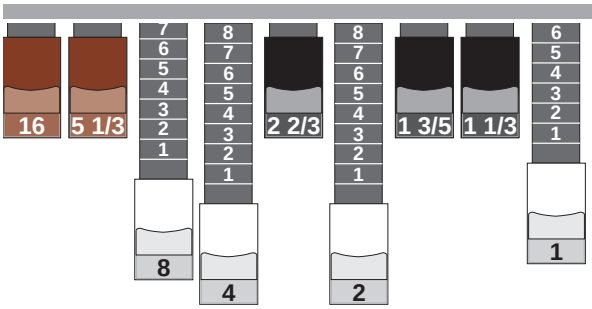
Stacato with short percussion played in "Poly-Mode" gives this setting a xylophone-like sound. Often used by Franz Lambert in his "Zirkus Renz".



Bright Bell-like Percussion

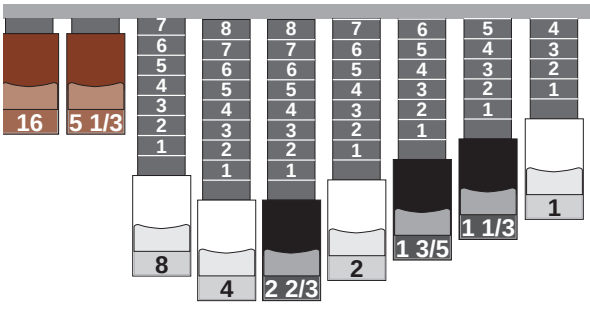
Trumpet-like setting based on the 8' Register.

This same setting can be used as a percussion setting. On the old Hammond H100, this setting was referred to as "guitar". Klause Wunderlich, in has many recordings using the H100, often used this setting for percussion.



Bell-like Percussion

Full, bell-like percussion setting. An especially pleasant melody sound when used with a horn-setting and a long percussion decay. Effective in all music styles.



Guitar-like Percussion

On the old Hammond H100, this setting was referred to as "guitar". Klause Wunderlich, in has many recordings using the H100, often used this setting for percussion.

FACTORY PRESETS NO. 1-3

Drawbar B3 "Straight" , Vibrato					Drawbar B3 "mellow", Percussion , Vibrato					Drawbar B3 "mellow" , Percussion via Rotor				
PRESET No.	**1**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**2**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**3**	**Upper**	**Lower**	**Pedal**
Group	Function				**Group**	Function				**Group**	Function			
Percussion	On			x	**Percussion**	On	x		x	**Percussion**	On	x		x
	2nd	x	x			2nd	x	x			2nd	x	x	
	3rd					3rd					3rd			
	User			x		User			x		User			x
	Polyphone	x	x	x		Polyphone		x	x		Polyphone		x	x
Time	Short	x	x	x	**Time**	Short		x	x	**Time**	Short		x	x
	Medium	x				Medium	x				Medium	x		
Envelope	Delay				**Envelope**	Delay				**Envelope**	Delay			
	Sustain			x		Sustain			x		Sustain			x
Keyclick	Soft		x		**Keyclick**	Soft		x		**Keyclick**	Soft		x	
	Medium	x				Medium	x				Medium	x		
Reverb	Program		3		**Reverb**	Program		3		**Reverb**	Program		3	
Rotor	On				**Rotor**	On				**Rotor**	On		x	
	Slow					Slow					Slow			
	Fast		x			Fast		x			Fast		x	
Percussion	Direct	x	x	x	**Percussion**	Direct	x	x	x	**Percussion**	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato	x	x		**Drawbar**	Vibrato	x	x		**Drawbar**	Vibrato		x	
Phase-Vibrato	Slow				**Phase-Vibrato**	Slow				**Phase-Vibrato**	Slow			
	Fast		x			Fast		x			Fast		x	
	Chorus					Chorus					Chorus			
	Normal					Normal					Normal			
	Celeste		x			Celeste		x			Celeste		x	
DB Sound Select	B3	x	x	x	**DB Sound Select**	B3	x	x	x	**DB Sound Select**	B3	x	x	x
	Wersi					Wersi					Wersi			
	Main	x	x			Main	x	x			Main	x	x	
	Variation			x		Variation			x		Variation			x
DB Registration	16'	8		8	**DB Registration**	16'	8		8	**DB Registration**	16'	8		8
	5 1/3'			6		5 1/3'	8		6		5 1/3'	8		6
	8'	8	7	8		8'	7	7	8		8'	8	7	8
	4'	8	5			4'	6	5			4'	8	5	
	2 2/3'					2 2/3'					2 2/3'			
	2'	8	4			2'		4			2'		4	
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'	8				1'					1'			

FACTORY PRESETS NO. 4-6

Drawbar B3 "Straight ", Rotor slow					Drawbar B3 "Straight ", Rotor fast					Drawbar B3 "open , 16, 5/13, 1'" , Vibrato fast, Rotor fast				
PRESET No.	**4**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**5**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**6**	**Upper**	**Lower**	**Pedal**
Group	Function				**Group**	Function				**Group**	Function			
Percussion	On				**Percussion**	On				**Percussion**	On			X
	2nd	X	X			2nd	X	X			2nd	X	X	
	3rd					3rd					3rd			
	User			X		User			X		User			X
	Polyphone	X	X	X		Polyphone	X	X	X		Polyphone	X	X	X
Time	Short	X	X	X	**Time**	Short	X	X	X	**Time**	Short	X	X	X
	Medium	X		X		Medium	X		X		Medium	X		X
Envelope	Delay				**Envelope**	Delay				**Envelope**	Delay			
	Sustain			X		Sustain			X		Sustain			X
Keyclick	Soft		X		**Keyclick**	Soft		X		**Keyclick**	Soft		X	
	Medium	X				Medium	X				Medium	X		
Reverb	Program		3		**Reverb**	Program		3		**Reverb**	Program		3	
Rotor	On		X		**Rotor**	On		X		**Rotor**	On		X	
	Slow		X			Slow					Slow			
	Fast					Fast		X			Fast		X	
Percussion	Direct	X	X	X	**Percussion**	Direct	X	X	X	**Percussion**	Direct	X	X	X
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato				**Drawbar**	Vibrato				**Drawbar**	Vibrato	X	X	
Phase-Vibrato	Slow		X		**Phase-Vibrato**	Slow				**Phase-Vibrato**	Slow			
	Fast					Fast		X			Fast		X	
	Chorus					Chorus					Chorus			
	Normal		X			Normal		X			Normal		X	
	Celeste					Celeste					Celeste			
DB Sound Select	B3	X	X	X	**DB Sound Select**	B3	X	X	X	**DB Sound Select**	B3	X	X	X
	Wersi					Wersi					Wersi			
	Main	X	X			Main	X	X			Main	X	X	
	Variation			X		Variation			X		Variation			X
DB Registration	16'	8		8	**DB Registration**	16'	8		8	**DB Registration**	16'	8		8
	5 1/3'			6		5 1/3'			6		5 1/3'	5		6
	8'	8	7	8		8'	8	7	8		8'		7	8
	4'		5			4'	8	5			4'		5	
	2 2/3'					2 2/3'					2 2/3'			
	2'	8	4			2'	8	4			2'		4	
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'					1'	8				1'	8		

FACTORY PRESETS NO. 7-9

Drawbar B3 "mellow" with "Guitar" Percussion , Vibrato					Drawbar B3 "mellow" with 3rd Percussion, Rotor Slow					Drawbar B3 "mellow" with 2nd Percussion, Vibrato Chorus				
PRESET No.	**7**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**8**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**9**	**Upper**	**Lower**	**Pedal**
Group	Function				**Group**	Function				**Group**	Function			
Percussion	On	x		x	**Percussion**	On	x		x	**Percussion**	On	x		x
	2nd		x			2nd		x			2nd	x	x	
	3rd					3rd	x				3rd			
	User	x		x		User			x		User			x
	Polyphone	x	x	x		Polyphone	x	x	x		Polyphone			
Time	Short	x	x	x	**Time**	Short	x	x	x	**Time**	Short	x	x	x
	Medium	x		x		Medium	x		x		Medium			x
Envelope	Delay				**Envelope**	Delay				**Envelope**	Delay			
	Sustain			x		Sustain			x		Sustain			
Keyclick	Soft	x	x		**Keyclick**	Soft	x	x		**Keyclick**	Soft		x	
	Medium					Medium					Medium	x		
Reverb	Program		3		**Reverb**	Program		3		**Reverb**	Program		3	
Rotor	On				**Rotor**	On		x		**Rotor**	On			
	Slow					Slow		x			Slow		x	
	Fast		x			Fast					Fast			
Percussion	Direct	x	x	x	**Percussion**	Direct		x	x	**Percussion**	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor	x				Rotor			
Drawbar	Vibrato	x	x		**Drawbar**	Vibrato	x	x		**Drawbar**	Vibrato	x	x	
Phase-Vibrato	Slow				**Phase-Vibrato**	Slow		x		**Phase-Vibrato**	Slow			
	Fast		x			Fast					Fast		x	
	Chorus					Chorus					Chorus		x	
	Normal					Normal					Normal			
	Celeste		x			Celeste		x			Celeste			
DB Sound Select	B3	x	x	x	**DB Sound Select**	B3	x	x	x	**DB Sound Select**	B3	x	x	x
	Wersi					Wersi					Wersi			
	Main	x	x			Main		x			Main	x	x	
	Variation			x		Variation	x		x		Variation			x
DB Registration	16'	8		8	**DB Registration**	16'	8		8	**DB Registration**	16'	8		8
	5 1/3'	8		6		5 1/3'	8		6		5 1/3'	8		6
	8'	7	7	8		8'	8	7	8		8'	8	7	8
	4'	7	5			4'	8	5			4'	8	5	
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'		4			2'		4	
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'					1'					1'			

FACTORY PRESETS NO. 10-12

Drawbar B3 "mellow", 2nd Percussion, Vibrato Chorus, Rotor Slow					Drawbar B3 "mellow", 2nd Percussion, Vibrato Chorus, Rotor Fast					Drawbar B3 "mellow", 2nd Percussion, Vibrato Chorus Slow, Rotor Slow				
PRESET No.	10	Upper	Lower	Pedal	PRESET No.	11	Upper	Lower	Pedal	PRESET No.	12	Upper	Lower	Pedal
Group	Function				Group	Function				Group	Function			
Percussion	On	x		x	Percussion	On	x		x	Percussion	On	x		x
	2nd	x	x			2nd	x	x			2nd	x	x	
	3rd					3rd					3rd			
	User			x		User			x		User			x
	Polyphone					Polyphone					Polyphone			
Time	Short	x	x	x	Time	Short	x	x	x	Time	Short	x	x	x
	Medium			x		Medium			x		Medium			x
Envelope	Delay				Envelope	Delay				Envelope	Delay			
	Sustain					Sustain					Sustain			
Keyclick	Soft	x	x		Keyclick	Soft	x	x		Keyclick	Soft	x	x	
	Medium	x				Medium	x				Medium	x		
Reverb	Program		3		Reverb	Program		3		Reverb	Program		3	
Rotor	On		x		Rotor	On		x		Rotor	On		x	
	Slow		x			Slow					Slow		x	
	Fast					Fast		x			Fast			
Percussion	Direct		x	x	Percussion	Direct		x	x	Percussion	Direct		x	x
	Vibrato					Vibrato					Vibrato			
	Rotor	x				Rotor	x				Rotor	x		
Drawbar	Vibrato	x	x		Drawbar	Vibrato	x	x		Drawbar	Vibrato	x	x	
Phase-Vibrato	Slow				Phase-Vibrato	Slow				Phase-Vibrato	Slow		x	
	Fast		x			Fast		x			Fast			
	Chorus		x			Chorus					Chorus			
	Normal					Normal		x			Normal		x	
	Celeste					Celeste					Celeste			
DB Sound Select	B3	x	x	x	DB Sound Select	B3	x	x	x	DB Sound Select	B3	x	x	x
	Wersi					Wersi					Wersi			
	Main	x	x			Main	x	x			Main	x	x	
	Variation			x		Variation			x		Variation			x
DB Registration	16'	8		8	DB Registration	16'	8		8	DB Registration	16'	8		8
	5 1/3'	8		6		5 1/3'	8		6		5 1/3'	8		6
	8'	7	7	8		8'	8	7	8		8'	8	7	8
	4'	7	5			4'	8	5			4'	8	5	
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'		4			2'		4	
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'					1'					1'			

FACTORY PRESETS NO. 13-15

Drawbar B3 "open", Rotor Fast					Drawbar B3 Variation "Straight", Rotor Slow, Keyclick Loud					Drawbar B3 Variation "Straight", Rotor Fast, Keyclick Loud				
PRESET No.	13	Upper	Lower	Pedal	PRESET No.	14	Upper	Lower	Pedal	PRESET No.	15	Upper	Lower	Pedal
Group	Function				Group	Function				Group	Function			
Percussion	On			x	Percussion	On				Percussion	On			
	2nd	x	x			2nd	x	x			2nd	x	x	x
	3rd					3rd					3rd			
	User			x		User			x		User			
	Polyphone					Polyphone					Polyphone			
Time	Short	x	x	x	Time	Short	x	x	x	Time	Short	x	x	x
	Medium			x		Medium			x		Medium			
Envelope	Delay				Envelope	Delay				Envelope	Delay			
	Sustain					Sustain					Sustain			
Keyclick	Soft	x	x		Keyclick	Soft	x	x		Keyclick	Soft	x		
	Medium	x				Medium	x				Medium	x		
Reverb	Program		3		Reverb	Program		3		Reverb	Program		3	
Rotor	On		x		Rotor	On		x		Rotor	On		x	
	Slow					Slow		x			Slow			
	Fast		x			Fast					Fast		x	
Percussion	Direct		x	x	Percussion	Direct		x	x	Percussion	Direct		x	x
	Vibrato					Vibrato					Vibrato			
	Rotor	x				Rotor	x				Rotor	x		
Drawbar	Vibrato		x		Drawbar	Vibrato		x		Drawbar	Vibrato		x	
Phase-Vibrato	Slow		x		Phase-Vibrato	Slow		x		Phase-Vibrato	Slow			
	Fast					Fast					Fast		x	
	Chorus					Chorus					Chorus			
	Normal					Normal		x			Normal			
	Celeste		x			Celeste					Celeste		x	
DB Sound Select	B3	x	x	x	DB Sound Select	B3	x	x	x	DB Sound Select	B3	x		
	Wersi					Wersi					Wersi		x	x
	Main	x	x			Main	x	x			Main			x
	Variation			x		Variation			x		Variation	x	x	
DB Registration	16'	8		8	DB Registration	16'	8		8	DB Registration	16'	8		8
	5 1/3'	5		6		5 1/3'			6		5 1/3'			6
	8'		7	8		8'	8	7	8		8'	8	7	8
	4'		5			4'	8	5			4'	8	5	
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'	8	4			2'	8	4	
	1 1/3'					1 1/3'	2				1 1/3'	2		
	1 3/5'					1 3/5'	3				1 3/5'	3		
	1'	4				1'	8				1'	8		

FACTORY PRESETS NO. 16-18

Drawbar B3 "Mellow", Vibrato, Rotor Fast, Keyclick Loud					WERSI Drawbar "Straight", Vibrato					WERSI Drawbar "Medium" , Vibrato, 2nd Percussion				
PRESET No.	**16**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**17**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**18**	**Upper**	**Lower**	**Pedal**
Group	Function				**Group**	Function				**Group**	Function			
Percussion	On				**Percussion**	On				**Percussion**	On	x		
	2nd	x	x	x		2nd	x	x	x		2nd	x	x	x
	3rd					3rd					3rd			
	User					User					User			
	Polyphone					Polyphone					Polyphone			
Time	Short	x	x	x	**Time**	Short	x	x	x	**Time**	Short	x	x	x
	Medium					Medium					Medium	x		
Envelope	Delay				**Envelope**	Delay				**Envelope**	Delay			
	Sustain					Sustain					Sustain			
Keyclick	Soft	x			**Keyclick**	Soft	x			**Keyclick**	Soft			
	Medium	x				Medium	x				Medium	x		
Reverb	Program		3		**Reverb**	Program		3		**Reverb**	Program		3	
Rotor	On		x		**Rotor**	On				**Rotor**	On			
	Slow					Slow					Slow			
	Fast		x			Fast		x			Fast		x	
Percussion	Direct		x	x	**Percussion**	Direct		x	x	**Percussion**	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor	x				Rotor	x				Rotor			
Drawbar	Vibrato	x	x		**Drawbar**	Vibrato	x	x		**Drawbar**	Vibrato	x	x	
Phase-Vibrato	Slow				**Phase-Vibrato**	Slow				**Phase-Vibrato**	Slow			
	Fast		x			Fast		x			Fast		x	
	Chorus					Chorus					Chorus			
	Normal					Normal					Normal			
	Celeste		x			Celeste		x			Celeste		x	
DB Sound Select	B3	x			**DB Sound Select**	B3				**DB Sound Select**	B3			
	Wersi		x	x		Wersi	x	x	x		Wersi	x	x	x
	Main	x		x		Main	x		x		Main	x		x
	Variation		x			Variation		x			Variation		x	
DB Registration	16'	8		8	**DB Registration**	16'	8		8	**DB Registration**	16'	8		8
	5 1/3'	5		6		5 1/3'			6		5 1/3'	8		6
	8'	3	7	8		8'	8	7	8		8'	8	7	8
	4'	8	5			4'	8	5			4'	5	5	
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'	8	4			2'		4	
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'					1'	8				1'			

FACTORY PRESETS NO. 19-21

WERSI Drawbar "Mellow" , Vibrato, 3rd Percussion					WERSI Drawbar "Mellow", Vibrato, User Percussion bright					WERSI Drawbar "Straight bright", Vibrato				
PRESET No.	19	Upper	Lower	Pedal	PRESET No.	20	Upper	Lower	Pedal	PRESET No.	21	Upper	Lower	Pedal
Group	Function				Group	Function				Group	Function			
Percussion	On	x			Percussion	On	x			Percussion	On			
	2nd		x	x		2nd		x	x		2nd		x	x
	3rd	x				3rd					3rd			
	User					User	x				User	x		
	Polyphone					Polyphone					Polyphone			
Time	Short	x	x	x	Time	Short	x	x	x	Time	Short	x	x	x
	Medium	x				Medium	x				Medium	x		
Envelope	Delay				Envelope	Delay				Envelope	Delay			
	Sustain					Sustain					Sustain			
Keyclick	Soft				Keyclick	Soft				Keyclick	Soft			
	Medium	x				Medium	x				Medium	x		
Reverb	Program		3		Reverb	Program		3		Reverb	Program		3	
Rotor	On				Rotor	On				Rotor	On			
	Slow					Slow					Slow			
	Fast		x			Fast		x			Fast		x	
Percussion	Direct	x	x	x	Percussion	Direct	x	x	x	Percussion	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato	x	x		Drawbar	Vibrato	x	x		Drawbar	Vibrato	x	x	
Phase-Vibrato	Slow				Phase-Vibrato	Slow				Phase-Vibrato	Slow			
	Fast		x			Fast		x			Fast		x	
	Chorus					Chorus					Chorus			
	Normal					Normal					Normal			
	Celeste		x			Celeste		x			Celeste		x	
DB Sound Select	B3				DB Sound Select	B3				DB Sound Select	B3			
	Wersi	x	x	x		Wersi	x	x	x		Wersi	x	x	x
	Main	x		x		Main			x		Main			x
	Variation		x			Variation	x	x			Variation	x	x	
DB Registration	16'	8		8	DB Registration	16'	8		8	DB Registration	16'	8		8
	5 1/3'	8		6		5 1/3'	8		6		5 1/3'			6
	8'	8	7	8		8'	8	7	8		8'		7	8
	4'	7	5			4'	6	5			4'		5	
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'		4			2'		4	
	1 1/3'					1 1/3'					1 1/3'	4		
	1 3/5'					1 3/5'					1 3/5'	6		
	1'					1'					1'	8		

FACTORY PRESETS NO. 22-24

WERSI Drawbar Variation "Straight bright", Vibrato, Rotor Fast				
PRESET No.	22	Upper	Lower	Pedal
Group	Function			
Percussion	On			
	2nd		x	x
	3rd			
	User	x		
	Polyphone			
Time	Short	x	x	x
	Medium	x		
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium	x		
Reverb	Program		3	
Rotor	On		x	
	Slow			
	Fast		x	
Percussion	Direct	x	x	x
	Vibrato			
	Rotor			
Drawbar	Vibrato	x	x	
Phase-Vibrato	Slow			
	Fast		x	
	Chorus			
	Normal			
	Celeste		x	
DB Sound Select	B3			
	Wersi	x	x	x
	Main			x
	Variation	x	x	
DB Registration	16'	8		8
	5 1/3'	4		6
	8'		7	8
	4'		5	
	2 2/3'			
	2'		4	
	1 1/3'	4		
	1 3/5'	6		
	1'	8		

WERSI Drawbar Variation "Straight bright", Vibrato, Rotor Slow				
PRESET No.	23	Upper	Lower	Pedal
Group	Function			
Percussion	On			
	2nd		x	x
	3rd			
	User	x		
	Polyphone			
Time	Short	x	x	x
	Medium	x		
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium	x		
Reverb	Program		3	
Rotor	On		x	
	Slow			
	Fast		x	
Percussion	Direct	x	x	x
	Vibrato			
	Rotor			
Drawbar	Vibrato	x	x	
Phase-Vibrato	Slow		x	
	Fast			
	Chorus			
	Normal			
	Celeste		x	
DB Sound Select	B3			
	Wersi	x	x	x
	Main			x
	Variation	x	x	
DB Registration	16'	8		8
	5 1/3'	4		6
	8'		7	8
	4'		5	
	2 2/3'			
	2'		4	
	1 1/3'	3		
	1 3/5'	6		
	1'	8		

WERSI Drawbar Variation "mellow", Vibrato, User Percussion Guitar, Rotor Fas				
PRESET No.	24	Upper	Lower	Pedal
Group	Function			
Percussion	On	x		
	2nd		x	x
	3rd			
	User	x		
	Polyphone			
Time	Short	x	x	x
	Medium	x		
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium	x		
Reverb	Program		3	
Rotor	On		x	
	Slow			
	Fast		x	
Percussion	Direct	x	x	x
	Vibrato			
	Rotor			
Drawbar	Vibrato	x	x	
Phase-Vibrato	Slow			
	Fast		x	
	Chorus			
	Normal		x	
	Celeste			
DB Sound Select	B3			
	Wersi	x	x	x
	Main	x		x
	Variation		x	
DB Registration	16'	8		8
	5 1/3'	8		6
	8'	8	7	8
	4'	4	5	
	2 2/3'			
	2'		4	
	1 1/3'			
	1 3/5'			
	1'			

FACTORY PRESETS NO. 25-27

WERSI Drawbar "Church" Flute piano					WERSI Drawbar "Church" Flutes mezzo forte					WERSI Drawbar "Church" Plenum				
PRESET No.	25	Upper	Lower	Pedal	PRESET No.	26	Upper	Lower	Pedal	PRESET No.	27	Upper	Lower	Pedal
Group	Function				Group	Function				Group	Function			
Percussion	On				Percussion	On				Percussion	On			
	2nd	x	x	x		2nd		x	x		2nd		x	x
	3rd					3rd					3rd			
	User					User	x				User	x		
	Polyphone					Polyphone					Polyphone			
Time	Short	x	x	x	Time	Short	x	x	x	Time	Short	x	x	x
	Medium	x	x			Medium	x				Medium	x		
Envelope	Delay	x	x	x	Envelope	Delay	x	x	x	Envelope	Delay	x	x	x
	Sustain					Sustain					Sustain			
Keyclick	Soft				Keyclick	Soft				Keyclick	Soft			
	Medium					Medium					Medium			
Reverb	Program		3		Reverb	Program		3		Reverb	Program		3	
Rotor	On		x		Rotor	On		x		Rotor	On		x	
	Slow		x			Slow		x			Slow		x	
	Fast					Fast					Fast			
Percussion	Direct	x	x	x	Percussion	Direct	x	x	x	Percussion	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato	x			Drawbar	Vibrato		x		Drawbar	Vibrato			
Phase-Vibrato	Slow		x		Phase-Vibrato	Slow		x		Phase-Vibrato	Slow		x	
	Fast					Fast					Fast			
	Chorus		x			Chorus		x			Chorus		x	
	Normal					Normal					Normal			
	Celeste					Celeste					Celeste			
DB Sound Select	B3				DB Sound Select	B3				DB Sound Select	B3			
	Wersi	x	x	x		Wersi	x	x	x		Wersi	x	x	x
	Main	x		x		Main	x		x		Main	x		x
	Variation		x			Variation		x			Variation		x	
DB Registration	16'	8		8	DB Registration	16'	8		8	DB Registration	16'	8		8
	5 1/3'			6		5 1/3'			6		5 1/3'	3		6
	8'	7	7	8		8'	8	7	8		8'	8	7	8
	4'	6	5			4'	8	5			4'	8	5	
	2 2/3'					2 2/3'					2 2/3'	4		
	2'		4			2'	8	4			2'	8	4	
	1 1/3'					1 1/3'					1 1/3'	3		
	1 3/5'					1 3/5'					1 3/5'	4		
	1'					1'	8				1'	8		

FACTORY PRESETS NO. 28-30

WERSI Drawbar Variation"Church" Tutti					WERSI Drawbar Variation, Sustain, Vibrato Slow					WERSI Drawbar Variation, Sustain, User Percussion bright, Rotor Slow				
PRESET No.	**28**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**29**	**Upper**	**Lower**	**Pedal**	**PRESET No.**	**30**	**Upper**	**Lower**	**Pedal**
Group	Function				**Group**	Function				**Group**	Function			
Percussion	On				**Percussion**	On			x	**Percussion**	On	x		x
	2nd		x	x		2nd		x			2nd		x	
	3rd					3rd					3rd			
	User	x				User	x		x		User	x		x
	Polyphone					Polyphone					Polyphone	x	x	x
Time	Short	x	x	x	**Time**	Short	x	x	x	**Time**	Short	x	x	x
	Medium	x				Medium	x	x			Medium	x	x	
Envelope	Delay	x	x	x	**Envelope**	Delay				**Envelope**	Delay			
	Sustain					Sustain	x		x		Sustain	x		x
Keyclick	Soft				**Keyclick**	Soft				**Keyclick**	Soft			
	Medium					Medium					Medium			
Reverb	Program		3		**Reverb**	Program		3		**Reverb**	Program		3	
Rotor	On		x		**Rotor**	On				**Rotor**	On		x	
	Slow		x			Slow		x			Slow		x	
	Fast					Fast					Fast			
Percussion	Direct	x	x	x	**Percussion**	Direct	x	x	x	**Percussion**	Direct	x	x	x
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato				**Drawbar**	Vibrato	x	x		**Drawbar**	Vibrato		x	
Phase-Vibrato	Slow		x		**Phase-Vibrato**	Slow		x		**Phase-Vibrato**	Slow			
	Fast					Fast					Fast		x	
	Chorus		x			Chorus		x			Chorus			
	Normal					Normal					Normal		x	
	Celeste					Celeste					Celeste			
DB Sound Select	B3				**DB Sound Select**	B3				**DB Sound Select**	B3			
	Wersi	x	x	x		Wersi	x	x	x		Wersi	x	x	x
	Main					Main					Main	x		
	Variation	x	x	x		Variation	x	x	x		Variation		x	x
DB Registration	16'	8		8	**DB Registration**	16'	8		8	**DB Registration**	16'	8		8
	5 1/3'	8		6		5 1/3'			6		5 1/3'			6
	8'	8	7	8		8'	8	7	8		8'	8	7	8
	4'	8	5			4'		5			4'	6	5	
	2 2/3'	8				2 2/3'					2 2/3'	3		
	2'	8	4			2'	4	4			2'		4	
	1 1/3'	8				1 1/3'					1 1/3'			
	1 3/5'	8				1 3/5'					1 3/5'			
	1'	8				1'					1'			

FACTORY PRESETS NO. 31-32

WERSI Drawbar Variation, Sustain, User Percussion bright, Vibrato Fast, Rotor Slow					WERSI Drawbar Variation, Sustain , 2nd Percussion, Vibrato Fast, Rotor Fast								
PRESET No.	31	Upper	Lower	Pedal	PRESET No.	32	Upper	Lower	Pedal	PRESET No.		Upper	Lower	Pedal
Group	Function				Group	Function				Group	Function			
Percussion	On	x			Percussion	On	x			Percussion	On			
	2nd		x	x		2nd	x	x	x		2nd			
	3rd					3rd					3rd			
	User	x				User					User			
	Polyphone	x	x	x		Polyphone	x	x	x		Polyphone			
Time	Short	x	x	x	Time	Short	x	x	x	Time	Short			
	Medium	x	x			Medium	x	x			Medium			
Envelope	Delay				Envelope	Delay				Envelope	Delay			
	Sustain	x		x		Sustain	x		x		Sustain			
Keyclick	Soft				Keyclick	Soft				Keyclick	Soft			
	Medium					Medium					Medium			
Reverb	Program		3		Reverb	Program		3		Reverb	Program			
Rotor	On		x		Rotor	On		x		Rotor	On			
	Slow		x			Slow					Slow			
	Fast					Fast		x			Fast			
Percussion	Direct	x	x	x	Percussion	Direct	x	x	x	Percussion	Direct			
	Vibrato					Vibrato					Vibrato			
	Rotor					Rotor					Rotor			
Drawbar	Vibrato	x	x		Drawbar	Vibrato	x	x		Drawbar	Vibrato			
Phase-Vibrato	Slow				Phase-Vibrato	Slow				Phase-Vibrato	Slow			
	Fast		x			Fast		x			Fast			
	Chorus					Chorus					Chorus			
	Normal		x			Normal					Normal			
	Celeste					Celeste		x			Celeste			
DB Sound Select	B3				DB Sound Select	B3				DB Sound Select	B3			
	Wersi	x	x	x		Wersi	x	x	x		Wersi			
	Main			x		Main			x		Main			
	Variation	x	x			Variation	x	x			Variation			
DB Registration	16'	8		8	DB Registration	16'	8		8	DB Registration	16'			
	5 1/3'	7		6		5 1/3'			6		5 1/3'			
	8'	3	7	8		8'	3	7	8		8'			
	4'		5			4'		5			4'			
	2 2/3'					2 2/3'					2 2/3'			
	2'		4			2'		4			2'			
	1 1/3'					1 1/3'					1 1/3'			
	1 3/5'					1 3/5'					1 3/5'			
	1'					1'	7				1'			

PRESETS

PRESET No.		Upper	Lower	Pedal
Group	Function			
Percussion	On			
	2nd			
	3rd			
	User			
	Polyphone			
Time	Short			
	Medium			
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium			
Reverb	Program			
Rotor	On			
	Slow			
	Fast			
Percussion	Direct			
	Vibrato			
	Rotor			
Drawbar	Vibrato			
Phase-Vibrato	Slow			
	Fast			
	Chorus			
	Normal			
	Celeste			
DB Sound Select	B3			
	Wersi			
	Main			
	Variation			
DB Registration	16'			
	5 1/3'			
	8'			
	4'			
	2 2/3'			
	2'			
	1 1/3'			
	1 3/5'			
	1'			

PRESET No.		Upper	Lower	Pedal
Group	Function			
Percussion	On			
	2nd			
	3rd			
	User			
	Polyphone			
Time	Short			
	Medium			
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium			
Reverb	Program			
Rotor	On			
	Slow			
	Fast			
Percussion	Direct			
	Vibrato			
	Rotor			
Drawbar	Vibrato			
Phase-Vibrato	Slow			
	Fast			
	Chorus			
	Normal			
	Celeste			
DB Sound Select	B3			
	Wersi			
	Main			
	Variation			
DB Registration	16'			
	5 1/3'			
	8'			
	4'			
	2 2/3'			
	2'			
	1 1/3'			
	1 3/5'			
	1'			

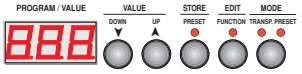
PRESET No.		Upper	Lower	Pedal
Group	Function			
Percussion	On			
	2nd			
	3rd			
	User			
	Polyphone			
Time	Short			
	Medium			
Envelope	Delay			
	Sustain			
Keyclick	Soft			
	Medium			
Reverb	Program			
Rotor	On			
	Slow			
	Fast			
Percussion	Direct			
	Vibrato			
	Rotor			
Drawbar	Vibrato			
Phase-Vibrato	Slow			
	Fast			
	Chorus			
	Normal			
	Celeste			
DB Sound Select	B3			
	Wersi			
	Main			
	Variation			
DB Registration	16'			
	5 1/3'			
	8'			
	4'			
	2 2/3'			
	2'			
	1 1/3'			
	1 3/5'			
	1'			

CONNECTING THE OX7 TO A PC FOR MIDI DUMPS; SAVING PRESETS

1) Connect the MIDI OUT jack of your OX7 with the MIDI IN jack on your PC (or Sequencer hardware). Connect the MIDI OUT jack of your PC with the MAIN IN jack on the OX7.

2) Connect the included powersupply to the POWER IN jack on the OX7. Power up both PC and OX7. If you are using a PC with MIDI software, load the appropriate software on the PC.

SAVING PRESETS

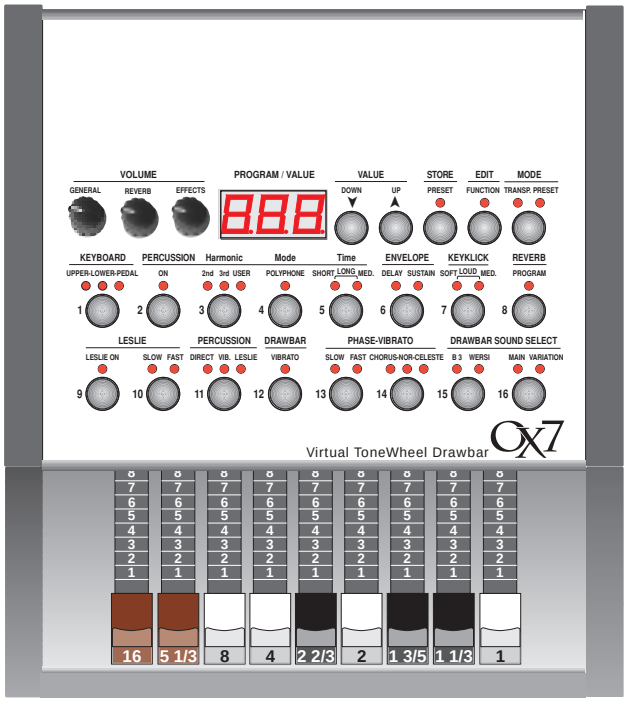


3) Press the EDIT button and then the VALUE UP button until the display shows „bul“ for BULK. Set your MIDI software to receive system exclusive MIDI data.

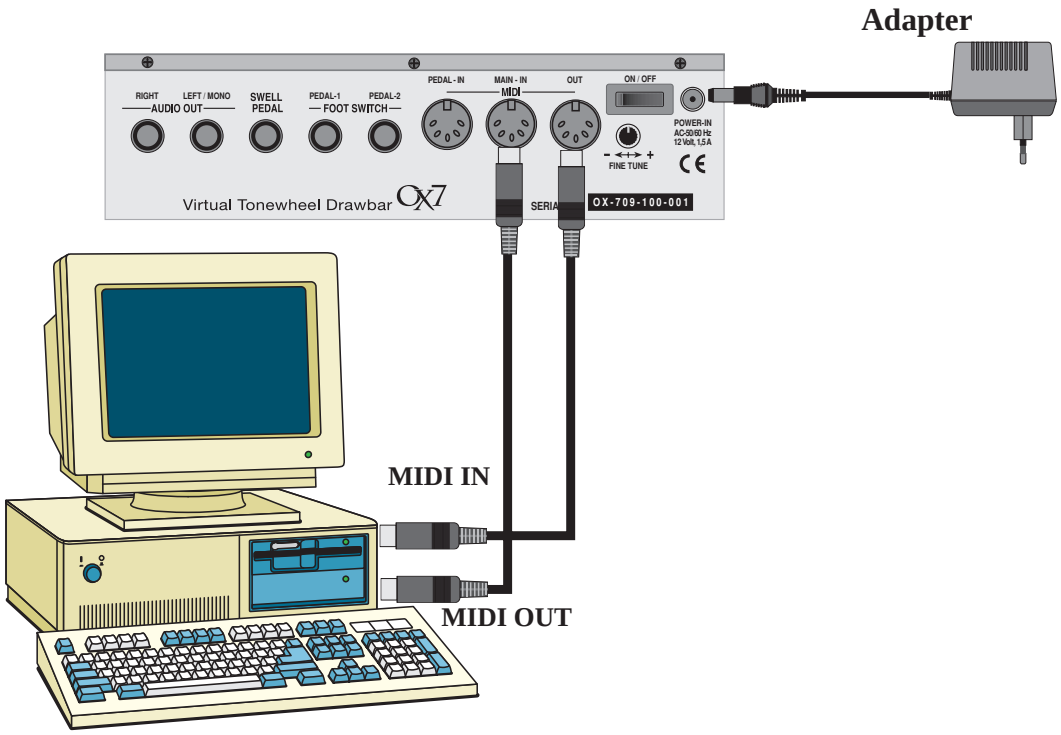
4) Press the EDIT button to begin the transfer. You can monitor the transfer progress in the OX7‘s display. Save the data received in your MIDI software to a data medium (hard drive, diskette, etc.)

LOADING PRESETS

Load your MIDI software containing the presaved OX7 BULK DUMP. Use the appropriate commands in your software to begin sending the data to the OX7. You can monitor the transfer progress in the OX7‘s display. Do not press any buttons on the OX7 during the transfer.


VOLUME
PROGRAM / VALUE
VALUE
STORE
EDIT
MODE
KEYBOARD
PERCUSSION
Harmonic
Mode
Time
ENVELOPE
KEYKLICK
REVERB
LESLIE
PERCUSSION
DRAWBAR
PHASE-VIBRATO
DRAWBAR SOUND SELECT
Virtual ToneWheel Drawbar
16
5 1/3
8
4
2 2/3
2
1 3/5
1 1/3
1

Virtual Tonewheel Drawbar


Adapter
RIGHT
LEFT / MONO
AUDIO OUT
SWELL PEDAL
PEDAL-1
PEDAL-2
FOOT SWITCH
PEDAL - IN
MAIN - IN
MIDI
OUT
ON / OFF
POWER-IN
AC50/60 Hz
12 Volt, 1,5A
FINE TUNE
Virtual Tonewheel Drawbar OX7
OX-709-100-001
MIDI IN
MIDI OUT

SOFTWARE UPDATE

Your OX7 is equipped with the special feature of being able to update its own operating system via MIDI. In this way it is possible for you to install the latest system software updates including newly added functions and features without having to open the case and install chip or cards. Contact your dealer to obtain system software updates.

In order to update your system software, you will need a PC with MIDI sequencer software. If you don´t own the appropriate equipment, perhaps your dealer will update the software for you if you take the OX7 in. Or perhaps you can borrow the equipment from a friend.

1. Connect your OX7 and PC/software as described in the section "Connecting the OX7 to a PC for MIDI Dumps".

2. Start your MIDI softwareand load the OX7 MIDI DUMP file containing the system software update.

3. Press and hold the STORE, EDIT and MODE buttons and while holding them, power up your OX7. In the display appears the two alternately flashing system software version abbreviations: "Ux.x" (your presently operating system) and "Lod". All other functions are nonoperable in this mode.

4. Begin the transfer by using the appropriate system exclusivesend command in your MIDI software. When the tranfer is finished "End" appears in the display.

5. Turn your OX7 off and back on. The new system software is now in operation.

If an error occurs during the transfer, "ErP" appears in the display. Set your MIDI software (songpointer) to begin the transfer, and reinitiate the transfer.

SENDING THE INTERNAL OPERATING SYSTEM SOFTWARE TO A PC OR TO ANOTHER OX7

Using the MIDI OUT port you can send the Operating System software to a PC or to another OX7. The operating system is 250 kb.

1. Press the EDIT button and then the DOWN button three times. In the display appears „rod“.

2. Use the EDIT button to begin the transmission. When the transmission is finished, you will see „END“ in the display.

MIDI IMPLEMENTATION SOFTWARE VERSION 5.0

		Transmit	Receive	Remarks
Basic Default	Channel Channel	1, 2, 3 1 - 16	1,2, 3 1 - 16	Memorized Memorized
Mode	Default Messages Altered	Poly X X	Poly X X	
Note Number	True Voice	X	1 - 128	
Velocity	Note ON Note OFF	O O	O O	
After Touch	Key´s Ch´s	X X	X X	
Pitch Bender		O	O	
Control Change		- 38 - 11 16 20 - 29 52 - 60 64 65 91 98, 99 100,101	1 38 7 11 16 20 - 29 52 - 60 64 65 91 98,99 123	Distortion Data Entry MSB Volume Expr. Pedal (only Upper Channel) Percussion Volume Drawbars 16, 8, 5 1/3, 8, 4 , 2 2/3, 2, 1 3/5, 1 1/3, 1 Percus. 16, 8, 5 1/3, 8, 4 , 2 2/3, 2, 1 3/5, 1 1/3, 1 Sustain Rotor slow/fast Reverb Volume (only Upp.Chan. Non-Registered Parameter (see list nect page) RPN (Pitch Bend Sensiv.) All Notes Off
Program Change	True#	O (1-99)	O (1-99)	
System Exclusive		O	O	Preset Dump
System :Song Pos :Song Sel Common :Tune		X X X	X X X	
System :Clock Real Time:Commands		O O	O O	
Aux :Local ON/OFF Mes- :All Notes Off sages :Active Sense :Reset all Cntr.		X O X X	X O X X	
Notes				O : Yes X : No

SWITCH FUNCTION USING NON-REGISTERED PARAMETERS

These functions apply to the buttons and switches on the OX7. They can be sent and received when the appropriate function in the program menu is set to „ON“. (see „Sending Switch Functions/Receiving Switch Functions)

Funktion	MIDI Data	Range	Notes
Reverb Typ	B0 63 02 62 10 26 XX	XX = 0..5	Reverb progr. 1..6
Rotor ON / OFF	B0 63 02 62 01 26 XX	XX = 0,1	0=Off, 1=On
Rotor SLOW /AST	B0 63 02 62 02 26 XX	XX = 0,1	0=Slow, 1=Fast
Vibrato ON / OFF	B0 63 02 62 04 26 XX	XX = 0,1	0=Off, 1=On
Vibrato SLOW /AST	B0 63 02 62 05 26 XX	XX = 0,1	0=Slow, 1=Fast
Vibrato/Chorus/Celeste	B0 63 02 62 06 26 XX	XX = 0..2	0=Vib, 1=Chor, 2=Cele
Percussion ON / OFF	B0 63 02 62 0A 26 XX	XX = 0,4	0=Off, 4=On
Harmic 2nd/3rd/User	B0 63 02 62 0B 26 XX	XX = 0..2	0=2nd, 1=3rd, 2=User
Percus. Mode	B0 63 02 62 0C 26 XX	XX = 0,1	0=Poly 1= Mono
Percus. Shrt/Med/Long	B0 63 02 62 0D 26 XX	XX = 0..2	0=Shrt, 1=Med, 2=Lng
Percus. Dir/Vib/Rotor	B0 63 02 62 03 26 XX	XX = 0..2	0=Dir 1=Vib, 2=Les
Envelp Del/Sust/Both	B0 63 02 62 0E 26 XX	XX = 0..2	0=Del, 1=Sust, 2=Both
Click Off/Soft/Med/Loud	B0 63 02 62 0F 26 XX	XX = 0..3	0=Off, 1=Soft, 2=Med, 3=Loud
Drawbar B3/WERSI	B0 63 02 62 07 26 XX	XX = 0,2	0=B3, 2=WERSI
Drawbar Main/Variat	B0 63 02 62 08 26 XX	XX = 0,1	0=Main, 1=Variat

SOUND PROGRAMMING USING MIDI

You can make changes to your sounds remotely over MIDI and save them in the permanent memory of your OX7. In order to do this, you must send the appropriate sysex message (see table below). Otherwise these parameters cannot be changed.

Note: In order to save the changes to the permanent memory of the OX7, you will need to send the „STORE“ command. Otherwise, when you turn your OX7 off, all your changes will be lost.

Funktion	MIDI Data	Range	Notes
Start Program	F0 00 20 2D 40 7E F7		
Rotor speed SLOW	B0 63 08 62 64 26 XX	XX = 0..7F	
Rotor speed FAST	B0 63 08 62 65 26 XX	XX = 0..7F	
Rotor Bass Level	B0 63 08 62 44 26 XX	XX = 0..7F	
Rotor Horn Level	B0 63 08 62 45 26 XX	XX = 0..7F	
Rotor angle Bass	B0 63 08 62 42 26 XX	XX = 0..7F	
Rotor angle Horn	B0 63 08 62 43 26 XX	XX = 0..7F	
Rotor radius Bass	B0 63 08 62 3C 26 XX	XX = 0..7F	
Rotor radius Horn	B0 63 08 62 3D 26 XX	XX = 0..7F	
Percussion direct	B0 63 08 62 28 26 XX	XX = 0..7F	
Percussion to Vibrato	B0 63 08 62 29 26 XX	XX = 0..7F	
Percussion to Rotor	B0 63 08 62 2A 26 XX	XX = 0..7F	
Percussion Short	B0 63 08 62 55 26 XX	XX = 0..7F	
Percussion Medium	B0 63 08 62 56 26 XX	XX = 0..7F	
Percussion Long	B0 63 08 62 57 26 XX	XX = 0..7F	
B3 Clic Level	B0 63 08 62 09 26 XX	XX = 0..7F	
WERSI Clic Level	B0 63 08 62 08 26 XX	XX = 0..7F	
Vibrato Depth	B0 63 08 62 6F 26 XX	XX = 0..7F	
Vibrato Speed	B0 63 08 62 6E 26 XX	XX = 0..7F	
Vibrato Dry / Wet	B0 63 08 62 36 26 XX	XX = 0..7F	
Sustain Time	B0 63 08 62 58 26 XX	XX = 0..7F	
STORE in Flash rom	B0 63 08 62 04 26 XX	XX = 01	

PROGRAM MAPS FOR CUBASE

Most modern sequencers are equipped with a feature that allows for editing information input from a diversity of tone generators. Usually there are graphically oriented tools such as sliders, potentiometers, and switchboards available that can be freely programmed to meet your personal needs for editing. To make this easier for you, we have created a mixer map template for Steinberg's Sequencer, CUBASE, which is available in versions for MAC, ATARI and PC. You can obtain these program templates free of charge from our Central office in Halsenbach, Germany.

In the sub-directery "Mixer Maps" you will find three sub directories for "PC", "MAC" and "ATARI" computers.

Upper/Main
Settings for the Upper Manual (MIDI Channel 1) as well as general settings.

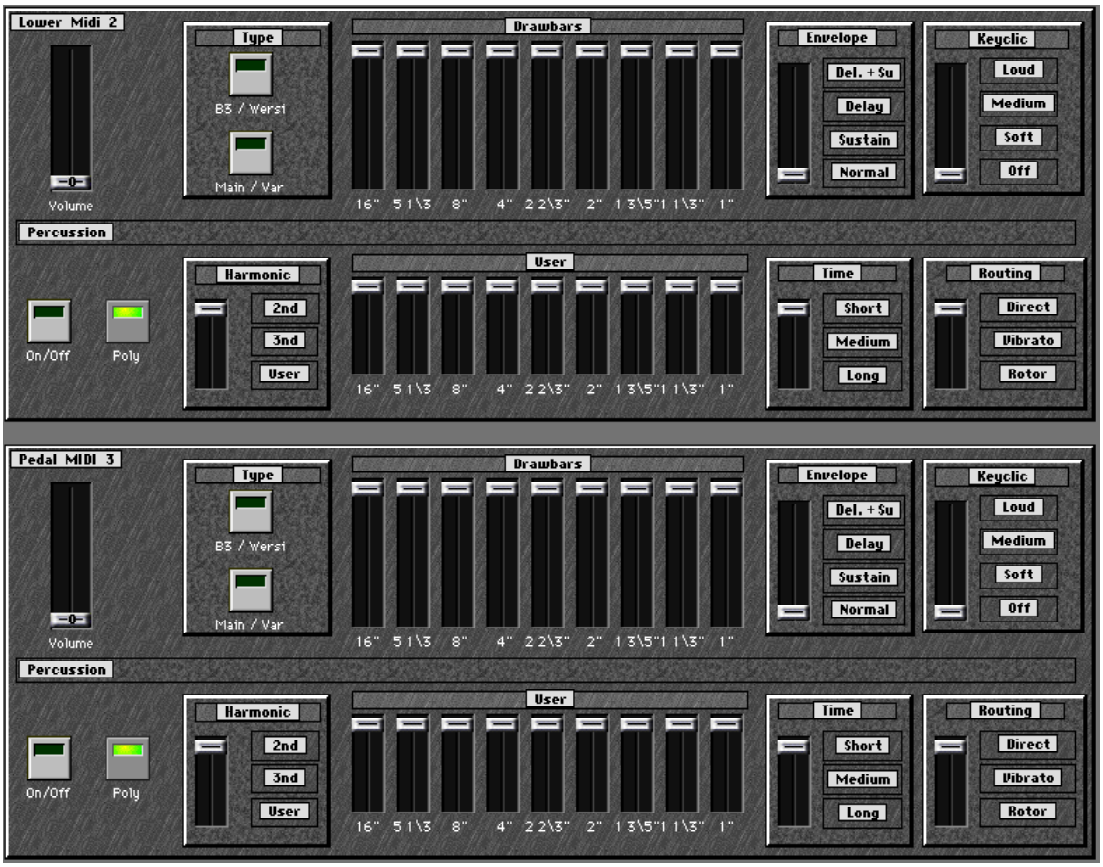
Lower/Bass
Settings for the Lower Manual and Bass Pedal.

OX 7 Program
Here you can change the settings for the Rotor ans Phase Vibrator and memorize them in the OX7. Furthermore it is possible to change the length of the sustain and percussion as well as routing settings. Before you commence with programming, press the STARTbutton once in the mixer map. If you wish to memorize the settings in the OX7, press the STORE button in the mixer map.

For further help concerning the operation of the mixer maps please refer to your CUBASE operation manual.

MIXERMAP UPPER

MIXERMAP LOWER / BASS



MIXERMAP PROGRAM

BLUE CHIP

music technology

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